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UNITED STATES DEPARTMENT OF AGRICULTURE

DEPARTMENT BULLETIN No. 1366

Washington, D. C. ▼ April, 1926

# CHECK LIST OF DISEASES OF ECONOMIC PLANTS IN THE UNITED STATES

By

PAUL J. ANDERSON, Pathologist in Charge, Connecticut Tobacco Experiment Station, and temporarily Associate Pathologist, Plant-Disease Survey; ROYAL J. HASKELL, Associate Pathologist in Charge of Plant-Disease Survey; WALTER C. MUENSCHER, Assistant Professor of Economic Botany, New York State College of Agriculture, and temporarily Associate Botanist, Plant-Disease Survey, and CLARA J. WELD, Assistant Pathologist, JESSIE I. WOOD, Junior Pathologist, and G. HAMILTON MARTIN, Assistant Pathologist, Office of Plant-Disease Survey and Pathological Collections Bureau of Plant Industry

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By PAUL J. ANDERSON, *Pathologist in Charge, Connecticut Tobacco Experiment Station*, and temporarily *Associate Pathologist, Plant-Disease Survey;* ROYAL J. HASKELL, *Associate Pathologist in Charge of Plant-Disease Survey;* WALTER C. MUENSCHER, *Assistant Professor of Economic Botany, New York State College of Agriculture*, and temporarily *Associate Botanist, Plant-Disease Survey;* and CLARA J. WELD, *Assistant Pathologist,* JESSIE I. WOOD, *Junior Pathologist,* and G. HAMILTON MARTIN, *Assistant Pathologist, Office of Plant-Disease Survey and Pathological Collections, Bureau of Plant Industry*

For a List ~~pub.~~ in 1950, see 1.965 M25p3 no.1

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The Office of Plant-Disease Survey and Pathological Collections has been collecting specimens and data regarding the occurrence and distribution of plant diseases in the United States for a number of years, but no attempt has heretofore been made to prepare a list of all the known diseases of economic importance in this country with their distribution. It is believed that such a list will be of great value to pathologists and others interested in plant diseases and their control, as it will provide a means of determining quickly and easily what diseases have been reported on our important economic plants and their present known distribution, with the name of the causal organism in the case of parasitic diseases and the common name of the disease. It is hoped also that the list will be helpful in bringing about greater uniformity and certainty in the use of both common and scientific names.

The list has been compiled from the office records, and much information and assistance have been given by members of the various pathological offices of the Bureau of Plant Industry and by some of the Plant-Disease Survey collaborators, to all of whom thanks are tendered.

58433—26†——1

## BASIS AND SCOPE OF THE LIST

The data on which this list is based have come chiefly from four sources: (1) Reports of the Plant-Disease Survey collaborators in the different States, (2) specimens preserved in the Pathological Collections of the Bureau of Plant Industry, (3) the literature on plant pathology and mycology, and (4) the investigations of many specialists who have supplied information. The reports of collaborators have been used principally in the work on the geographic range of the various diseases. It will be seen at a glance that much more information is needed on this subject, and it is hoped that all who are in a position to add to our records will send reports with specimens. The records on specimens in the Pathological Collections have been used to obtain data regarding distribution. It has not been possible to verify the determinations of the fungi found in the herbarium, but all concerning which there was obvious doubt have been omitted. The material, however, is available for examination at any time in case question should arise regarding it. Records from the literature on the subject chiefly relate to additional information regarding the occurrence and geographic range of diseases.

The list is confined to the diseases of the principal economic plants of the United States, including most timber trees and many of the ornamentals. It has been the intention to include all economically important parasitic and nonparasitic diseases known to occur within the continental United States. The parasitic diseases are listed under each host alphabetically by causal organism. These are followed by the nonparasitic diseases and those for which no pathogen is known. These are indicated respectively by "nonpar." and "undet." Such troubles as winter injury, frost injury, and sun scald, which are liable to occur on any plant, have been omitted. There are no doubt other diseases in the literature which have been overlooked, and it is hoped that when such are observed they will be promptly reported.

It will be noted that the information concerning the geographic distribution of many diseases is obviously incomplete. It is hoped, however, that this preliminary list may stimulate more interest in the subject and lead all who have an opportunity to add to our information to do so. It is particularly important to have plant-disease material and specimens to verify the occurrence of new and little-known diseases from different localities.

## HOST NAMES

The scientific and common names of the hosts included in this list are those used in Standardized Plant Names,[1] and no authority is cited in connection with these names. Occasionally, necessary exceptions which occur in the list are shown by the use of an asterisk.

The diseases of each host are listed separately whenever practicable, but no attempt has been made to separate the diseases of the varieties of the host species, except in a few cases where such varieties include rather distinct crop plants; for example, cabbage, cauliflower, kale, kohlrabi, etc., under *Brassica oleracea*.

[1] American Joint Committee on Horticultural Nomenclature. Standardized Plant Names. 546 pp Salem, Mass. 1923.

In some of the host genera, as, for example, Quercus, it has been impracticable to list the diseases for each species separately. In many genera, such as Prunus and Rubus, in which many of the records of our collaborators simply report a disease as occurring "on Prunus" or "on raspberry," it is not possible to give the particular species of the host; and in some genera the nomenclature of the species is so confused that it is almost impossible to determine what host the collaborator had in mind unless the authority for the species is given or a specimen supplied. For example, the name *Populus balsamifera* is sometimes applied to any one of a number of species of Populus. In some of the records the generic name of the host species only is given. In this connection it is desirable to urge upon collaborators the great importance of giving specific names of the host plants when sending reports and specimens, or accompanying the reports by specimens of the host as well as the fungus. This is essential in order that our records may be as complete and accurate as possible. The abbreviation "spp." after the generic name of a host means that all diseases reported on any species of the genus are listed and considered in recording the distribution of the diseases—for example, *Salix* spp. "Sp." after the generic name indicates that the diseases listed were reported largely on an undetermined or doubtfully determined species of the genus—for example, *Begonia* sp.

In certain host genera the diseases are listed separately for one or more of the common or important species, following which the diseases of all other species of the genus are grouped under "sp." or "spp." In such cases the diseases and their distribution do not necessarily include the diseases or distribution as listed under specific host species—for example, *Juniperus virginiana* and *Juniperus* spp.

## NAMES OF PATHOGENS

As there is no general agreement at present among the mycologists and phytopathologists of the world in regard to the names of fungous parasites, it has been found necessary to adopt for the purposes of this list, as a rule, the names which are at present in most general use. For some large groups of parasitic fungi, of which more or less recent monographs are available and are largely used for reference by pathologists, it has seemed best to follow rather closely the nomenclature of such works.

*Rusts.*—The specific names of the rusts which appear in Volume VII of North American Flora have been adopted, except in a few cases where long usage has established a name so firmly that there seems to be no good reason for attempting to supplant it by another; for example, *Puccinia graminis* is used instead of *P. poculiformis* for the stem-rust of wheat and *P. coronata* instead of *P. rhamni* for the crown-rust of oats. Generic names of long standing and in general use, such as Puccinia and Uromyces, are also retained.

*Smuts.*—The names in this group are those of Clinton's monograph on the Ustilaginales in Volume VII of North American Flora.

*Powdery mildews.*—Salmon's monograph on the Erysiphaceæ in Volume 9 of the Memoirs of the Torrey Botanical Club has been followed in this group.

*Downy mildews*—The papers of G. W. Wilson on the Peronosporales have been followed with the exception of the generic name

Rhysotheca, for which the common and well-established name Plasmopara is retained.

*Polypores.*—Of the wood-inhabiting polypores and other Hymenomycetes, only those are included which are known to cause definite diseases or rots of living trees or timber and for which the symptoms have been described in pathological literature. Saprophytic species, or those whose economic importance has not been demonstrated, have been omitted. In the choice of names, the more common usage has been followed.

*Bacteria.*—The names used for the bacterial pathogens are those in most common use, as the bacteriologists apparently are not yet entirely agreed in regard to some recently proposed changes.

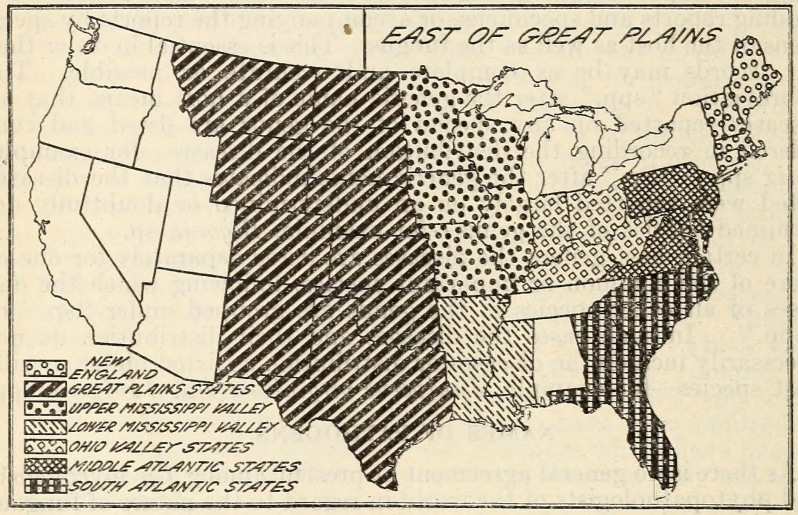


FIG. 1.—Geographic areas used in the list: New England, Great Plains States, upper Mississippi Valley, lower Mississippi Valley, Ohio Valley States, Middle Atlantic States, and South Atlantic States

*Botrytis.*—All pathogens of this genus, with a few exceptions, are here listed under the names *Botrytis* sp. or *Botrytis cinerea* Auct. It is probable that several distinct species are included under these names, but since there is no satisfactory basis now available for specific distinction, it seems best for present purposes to include all under these names, pending the appearance of a satisfactory revision of the genus.

*Synonyms.*—Synonyms are given in parentheses in certain pleomorphic species in which the perfect stage is known and in some other cases in which it seems desirable. In general, the name which has been applied to the perfect stage has been adopted.

## COMMON NAMES OF DISEASES

The following principles, some of which have been adopted by the American Phytopathological Society,[2] have been used in selecting the common names in the present list. Many of these names have already been passed upon and approved by the society.

(1) First consideration has been given to names already in wide and general use.

(2) Names descriptive of symptoms have been selected where practicable.

(3) In general, the various diseases caused by a single organism on different hosts have been given the same common name.

(4) Many diseases which are not sufficiently well known or important to receive a descriptive name have been classed according to their major symptoms; for example, leaf-blight, root-rot, rust, and wilt.

(5) It is assumed that the generic name of the causal organism may be prefixed to such common names whenever it is deemed desirable. Such generic names have not, however, been repeated in this list.

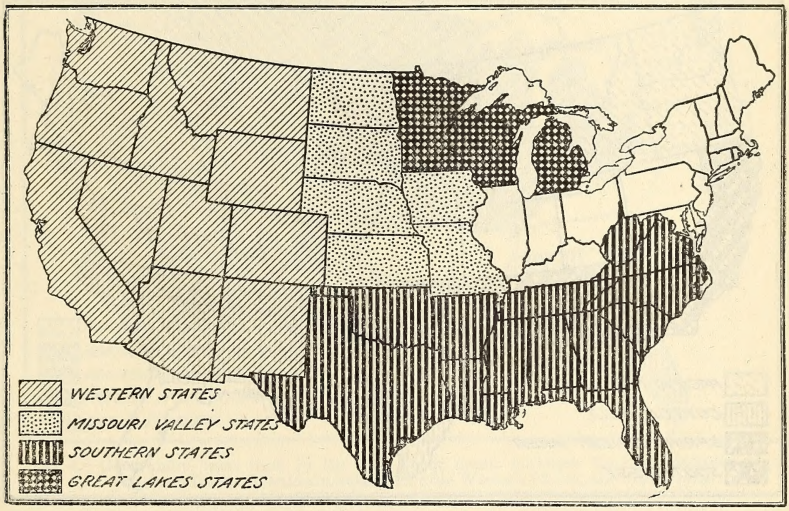


FIG. 2.—Geographic areas used in the list: Western States, Missouri Valley States, Southern States, and Great Lakes States

It is hoped that as many of these common names as prove convenient and satisfactory for practical purposes will be generally adopted, in order that they may become fixed and definite in their application and thus secure uniformity and stability.

## DISTRIBUTION

An endeavor has been made to give in a brief form the geographic range of each species as correctly as the available information will permit. Diseases reported from a few or widely scattered States are followed by lists of these States. Diseases which have been reported from a number of States in which the host crop is grown or grows naturally are indicated as "general." Diseases which have been reported from a large number of States and in different parts of the country are indicated as "widespread." If a disease occurs

[2] Shear, C. L. Report of the seventh annual meeting of the American Phytopathological Society. *In* Phytopathology, vol. 6, pp. 211–212. 1916.

in one or more restricted regions, the range is indicated by listing the region. The following list gives the States included in each of the regions commonly mentioned. The accompanying maps (figs. 1 to 4) show the outlines of the various regions.

## GEOGRAPHIC AREAS SPECIFIED IN THIS LIST, WITH ABBREVIATIONS

New England: Maine (Me.), New Hampshire (N. H.), Vermont (Vt.), Massachusetts (Mass.), Connecticut (Conn.), Rhode Island (R. I.).

Middle Atlantic States: New Jersey (N. J.), Pennsylvania (Pa.), Delaware (Del.), Maryland (Md.), Virginia (Va.).

South Atlantic States: North Carolina (N. C.), South Carolina (S. C.), Georgia (Ga.), Florida (Fla.).

Southern States: Virginia (Va.), North Carolina (N. C.), South Carolina (S. C.), West Virginia (W. Va.), Tennessee (Tenn.), Georgia (Ga.), Florida (Fla.), Alabama (Ala.), Mississippi (Miss.), Louisiana (La.), Arkansas (Ark.), Oklahoma (Okla.), Texas (Tex.).

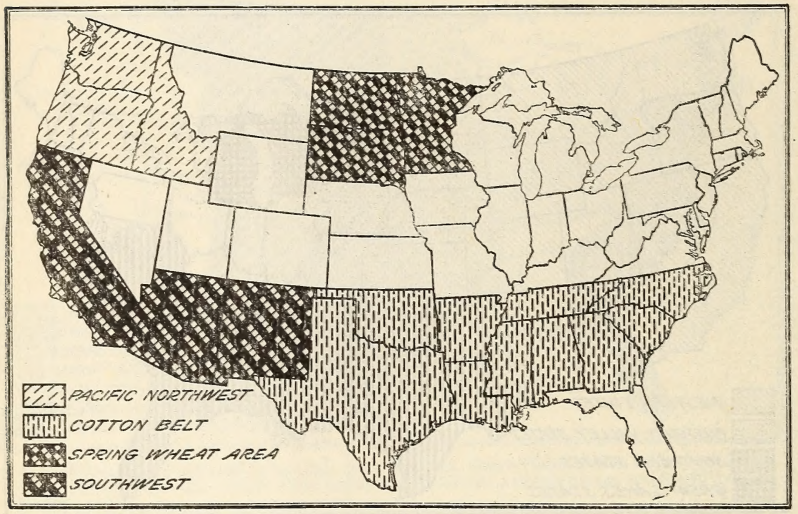


FIG. 3.—Geographic areas used in the list: Pacific Northwest, Cotton Belt, spring-wheat area, and the Southwest

Great Lakes States: Michigan (Mich.), Wisconsin (Wis.), Minnesota (Minn).

Upper Mississippi Valley: Wisconsin (Wis.), Illinois (Ill.), Minnesota (Minn.), Iowa (Iowa), Missouri (Mo.).

Lower Mississippi Valley: Arkansas (Ark.), Mississippi (Miss.), Louisiana (La.).

Missouri Valley States: North Dakota (N. Dak.), South Dakota (S. Dak.), Nebraska (Nebr.), Iowa, Kansas (Kans.), Missouri (Mo.).

Ohio Valley States: Ohio, Indiana (Ind.), Kentucky (Ky.), West Virginia (W. Va.).

Middle West: Ohio, Indiana (Ind.), Illinois (Ill.), Michigan (Mich.), Wisconsin (Wis.), Minnesota (Minn.), Iowa, Missouri (Mo.), North Dakota (N. Dak.), South Dakota (S. Dak.), Nebraska (Nebr.), Kansas (Kans.).

Gulf States: Florida (Fla.), Alabama (Ala.), Mississippi (Miss.), Louisiana (La.), Texas (Tex.).

Great Plains States: North Dakota (N. Dak.), South Dakota (S. Dak.), Nebraska Nebr.), Kansas (Kans.), Oklahoma (Okla.), Texas (Tex.), Montana (Mont.), Wyoming (Wyo.), Colorado (Colo.), New Mexico (N. Mex.).

Western States: Montana (Mont.), Wyoming (Wyo.), Colorado (Colo.), New Mexico, (N. Mex.), Idaho, Utah, Nevada (Nev.), Arizona (Ariz.), Washington (Wash.). Oregon (Oreg.), California (Calif.).

Rocky Mountain States:
Northern—Montana (Mont.), Wyoming (Wyo.), Idaho.
Southern—Colorado (Colo.), New Mexico (N. Mex.), Utah, Nevada (Nev.), Arizona (Ariz.).
Pacific coast: Washington (Wash.), Oregon (Oreg.), California (Calif.).
Pacific Northwest: Washington (Wash.), Oregon (Oreg.), Idaho.
Southwest: Arizona (Ariz.), New Mexico (N. Mex.), California (Calif.).
Cotton Belt: North Carolina (N. C.), South Carolina (S. C.), Georgia (Ga.), Alabama (Ala.), Tennessee (Tenn.), Mississippi (Miss.), Louisiana (La.), Oklahoma (Okla.), Arkansas (Ark.), Texas (Tex.).
Spring-wheat area: North Dakota (N. Dak.), South Dakota (S. Dak.), Minnesota (Minn.).
East of Great Plains: All States east of and including the eastern part of North Dakota (N. Dak.), South Dakota (S. Dak.), Kansas (Kans.), Oklahoma (Okla.), Texas (Tex.).

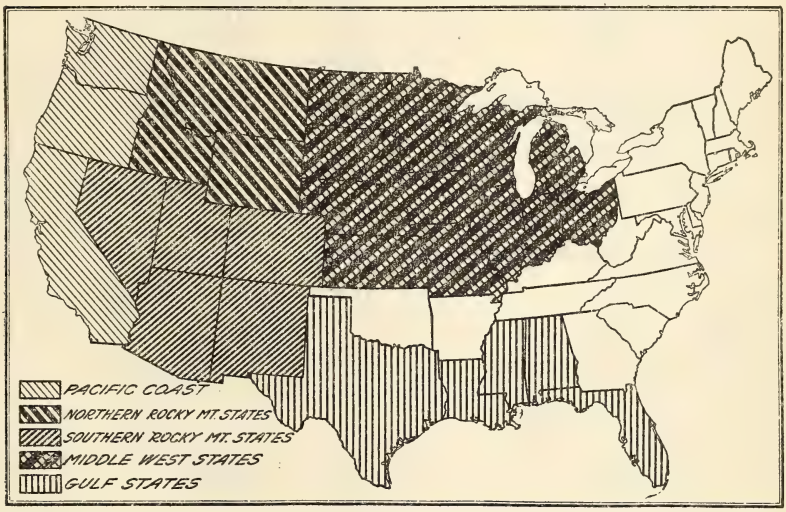


FIG. 4.—Geographic areas used in the list: Pacific coast, northern Rocky Mountain States, southern Rocky Mountain States, Middle Western States, and Gulf States

It is hoped that all who use this list will report any errors or omissions observed and will send specimens and records of any diseases not reported here or from regions not specified in this list, in order that later editions may be made more complete and accurate than this one.

C. L. SHEAR,
*Senior Pathologist in Charge of Plant-Disease Survey and Pathological Collections.*

## LIST OF AUTHORITIES

The following is a complete list of the authorities used in the index, with the abbreviations of the names occurring most frequently:

Aderh. = R. Aderhold.
Alb. = Johannes Baptiste von Albertini.
Allesch. = Andreas Allescher.
Alm. = J. V. d'Almeida.
Am. Auct. = of American authors.
Anderson, H. W.
Anderson, P. J.
Appel = O. Appel.
Arcangeli, G.
Arn. = G. Arnaud.
Arth. = J. C. Arthur.

Arthur, John M.
Atk. = George F. Atkinson.
Auct. = of authors.
Auer. = B. Auerswald.
Baeumler, J. A.
Bain, S. M.
Bak. = A. L. Bakke.
Barclay, A.
Barss = H. P. Barss.
Barth. = E. T. Bartholomew.
Bast. = H. C. Bastian.
Batsch = August Johann Batsch.
Beckm. = Paul Beckmann.
Bellynck, A.
Bereng. = A. de Berenger.
Berk. = M. J. Berkeley.
Berl. = A. N. Berlese.
Bertero, C. G.
Berth. = A. Berthold.
Bessey, E. A.
Bethel = E. G. Bethel.
Biv. = A. de Bivona-Bernhardi.
Bizz. = G. Bizzozero.
Bjerk. = C. Bjerkander.
Blox. = A. Bloxam.
Bon. = H. F. Bonorden.
Bonar, L.
Boncquet, P. A.
Bosc = Louis A. Guillaime Bosc.
Br. = C. E. Broome.
Braun = A. Braun.
Braun, H.
Brenckle = J. F. Brenckle.
Bres. = Giacomo Bresadola.
Briard, H.
Briosi = G. Briosi.
Brot. = Felix de Avellar Brotero.
Brown, J. G.
Brown, N. = Nellie A. Brown.
Brun. = P. Brunaud.
Bryan, M. K. = Mary K. Bryan.
Bub. = F. Bubak.
Bull. = Pierre Bulliard.
Burk. = W. H. Burkholder.
Burr. = T. J. Burrill.
Butl. = E. J. Butler.
Cam. = M. d'Souza da Camara.
Carpenter, C. W.
Carter, C. N.
Casp. = R. Caspary.
Cast. = L. Castagne.
Catt. = A. Cattaneo.
Cav. = Fridiano Cavara.
Cda. = A. C. J. Corda.
Ces. = Vincenzo Cesati.
Charles, V. K.
Chester = F. D. Chester.
Chev. = F. Chevallier.
Childs = Le Roy Childs.
Chupp, C.
Cke. = M. C. Cooke
Clapp, G. L.
Clausen, R. E.
Clements, F. E.
Clint. = G. P. Clinton.
Cobb = N. A. Cobb.
Coerper = Florence M. Coerper.
Cohn = Ferdinand Julius Cohn.
Colby, A. S.
Com. S. A. B. = Committee of the Society of American Bacteriologists.
Coons, G. H.
Cordley, A. B.
Coville = F. V. Coville.
Crouan, P. L.
Currey, F.
Curt. = M. A. Curtis.
Dan. = P. A. Dangeard.
Dana, B. F.
Davis = J. J. Davis.
D By. = Anton de Bary.
DC. = Augustin Pyramus de Candolle.
Dearn. = John Dearness.
Del. = G. Delacroix.
DeLac. = l'Abbé S. de Lacroix.
DeNot. = G. de Notaris.
DeSeyn. = J. de Seynes.
Desm. = J. B. H. J. Desmazieres.
DeToni = G. B. de Toni.
Died. = H. Diedicke.
Diet. = P. Dietel.
Dodge, B. O.
Doidge = E. M. Doidge.
Dorsett, P. H.
Drechs. = Charles Drechsler.
Duby = J. E. Duby.
Dug. = B. M. Duggar.
Dur. = Durieu de Maisonneuve.
Durand, E. J.
Earle = F. S. Earle.
Eddy, E. D.
Edg. = C. W. Edgerton.
Edson, H. A.
EFS. = Erwin F. Smith.
Ebr. = C. G. Ehrenberg.
Eidam = E. Eidam.
Ell. = J. B. Ellis.
Elliott, Charlotte.
Elliott, J. A.
Engelm. = George Engelmann.
Enlows, = Ella M. A.
Eriks. = J. Eriksson.
Ev. = B. M. Everhart.
Ezekiel, Walter N.
Fairman = C. E. Fairman.
Farl. = W. G. Farlow.
Fautr. = F. Fautrey.
Fawc. = H. S. Fawcett.
Fckl. = L. Fuckel.
Field, Ethel.
Fisch. = A. Fischer von Waldheim.
Fischer, Ed. = Eduard Fischer.
Fitz. = H. M. Fitzpatrick.
Foster, A. C.
Fr. = Elias M. Fries.
Frank, A. B.
Fresen. = George Fresenius.
Fromme, F. D.
Frost, C. C.
Gall. = B. T. Galloway.
Gardner, M. W.
Garovaglio, Santo.
Gerard, W. R.
Gidd. = N. J. Giddings.
Gies. = Karl Giesenhagen.

Gill. = Claude Casimir Gillet.
Gloyer, W. O.
Godfrey, G. H.
Godkin, James.
Goodding, Leslie N.
Graves, A. H.
Gray, S. F.
Greef = R. Greef.
Gregory, C. T.
Griff. = David Griffiths.
Griffin, F. L.
Gross. = J. G. Grossenbacher.
Grout, A. J.
Gues. = H. T. Guessow.
Hahn, G.
Hall, J. G.
Hall, van = Constant Johan Jacob van Hall.
Hals. = Byron D. Halsted.
Hanzawa, J.
Hara, K.
Hark. = H. W. Harkness.
Harter = L. L. Harter.
Hartig = Robert Hartig.
Harz, C. O.
Hasse = Clara Hasse.
Heald = F. D. Heald.
Hedgc. = G. G. Hedgcock.
Hedges = Florence Hedges.
Hedw. f. = R. A. Hedwig.
Hemmi, Takewo.
Henn. = Ernst Henning.
Henn., P. = Paul Hennings.
Hesse = Rudolf Hesse.
Hig. = B. B. Higgins.
Hoehn. = F. von Hoehnel.
Holw. = E. W. D. Holway.
Hopkins, E. F.
Hudson, William.
Humph. = J. E. Humphrey.
Hunt = N. Rex Hunt.
Jaap, Otto.
Jack. = H. S. Jackson.
Jacq. = Nicholas Joseph Jacquin.
Jacz. = Arthur de Jaczewski.
Jagger, I. C.
James, G. F.
Jamieson, C.
Jehle = R. A. Jehle.
Jenkins, A.
Jens. = J. L. Jensen.
Johans. = C. J. Johanson.
Johnson, A. G.
Johnson, James.
Johnson, T.
Jones, F. R.
Jones, L. R.
Juel = H. O. Juel.
Kab. = J. E. Kabat.
Karst. = P. A. Karsten.
Kauffman, C. H.
Kell. = W. A. Kellerman.
Kendrick, J. B.
Kern = F. D. Kern.
Khazanoff, A.
King = Charlotte King.
Kirchner, L.
Kleb. = H. Klebahn.
Klotzsch, J. F.
Koern. = F. Koernicke.
Krueger, W.
Kuehn = J. Kuehn.
Kuntze, O.
Kze. = G. Kunze.
Laf. = H. A. Lafferty.
Lagh. = G. von Lagerheim.
Lambert, C. R.
Langlois, A. B.
Lasch = W. G. Lasch.
Leb. = Hermann Lebert.
Lee, H. A.
Leonian, L. H.
Lév. = J. H. Léveillé.
Lewis, I. M.
Lib. = Marie Anne Libert.
Lindau = G. Lindau.
Lindr. = J. I. Lindroth.
Liro, J. I.
Lk. = Heinrich Friedrich Link.
Long = W. H. Long.
Ludwig, C. A.
Ludwig, F.
Luedi, R.
Lyon, H. L.
Mackie, W. W.
Magn. = P. Magnus.
Mains, E. B.
Manns, T. F.
Marignoni, G. B.
Mart. = George Martin.
Martius, C. = C. F. P. von Martius
Mass. = George Massee.
Matz, J.
Maub. = A. Maublanc.
McAlp. = D. McAlpine.
McC. = Lucia McCulloch.
McClain, R. L.
Meier, F.
Meinecke, E. P.
Melhus, I. E.
Metcalf, H. A.
Miles, L. E.
Miyabe = Kingo Miyabe.
Miyake = Tehiro Miyake.
Molliard, M.
Mont.=J. F. C. Montagne.
Morgan, Andrew Price.
Moug. = Jean Baptiste Mougeot.
Muell. = C. Mueller.
Munn, M. T.
Murr. = W. A. Murrill.
Murray, T. J.
Nees = Christian Gottfried Nees von Esenbeck.
Neg. = Friedrich Wilhelm Neger.
Niessl = G. von Niessl.
Nishida, T.
Noack, F.
Norton, J. B. S.
Nutt. = Thomas Nuttall.
O'Gara, P. J.
Osner, George.
Otth = G. H. Otth.
Oud. = C. A. J. A. Oudemans.
Overh. = L. O. Overholts.
Pam. = L. H. Pammel.

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Pass. = Giovanni Passerini.
Pat. = Narcisse Patouillard.
Patterson, F. = Flora Wambaugh Patterson.
Paxton, G. E.
Pegl. = V. Péglion.
Penz. = O. Penzig.
Perc. = C. Percival.
Pers. = Christian Hendrik Persoon.
Peterson, A.
Peth. = G. H. Pethybridge.
Petr. = Franz Petrak.
Phill. = William Phillips.
Pierce, Newton B.
Piper = C. V. Piper.
Pk. = C. H. Peck.
Plow. = C. B. Plowright.
Poit. = A. Poiteau.
Poll. = Gino Pollacci.
Porte, W. S.
Posey = G. B. Posey.
Preuss = C. G. T. Preuss.
Prill. = Ed. Prilleaux.
Pritchard, F. J.
Quel. = Lucien Quélet.
Rabh. = G. L. Rabenhorst.
Raciborski, M.
Ramsey, G. B.
Rand, F. V.
Rankin, W. H.
Rav. = H. W. Ravenel.
Ravaz = L. Ravaz.
Reade, J. M.
Reb. = J. F. Rebentisch.
Reddick, D.
Reddy, C. S.
Regel, E.
Rehm = H. Rehm.
Reinke = Johannes Reinke.
Ricker, P. L.
Riess, H.
Ritzema Bos, J.
Rob. = M. Roberge.
Roberts, J. W.
Rose, D. H.
Rosen, H. R.
Rosenbaum, J.
Rosendahl, C. O.
Rostew. = S. I. Rostewzew.
Rostr. = E. Rostrup.
Roum. = C. Roumeguère.
Roze = E. Roze.
Rudolph, A. B.
S. A. B. (Com.) = Committee of Society of American Bacteriologists.
Sacc. = P. A. Saccardo.
Sacc., D. = D. Saccardo.
Sackett, W. G.
Sadeb. = R. E. B. Sadebeck.
Salm. = E. S. Salmon.
Scalia, G.
Schaeff. = J. C. Schaeffer.
Schilb. = K. Schilbersky.
Schl. = Diedrich Franz Leonhard von Schlechtendahl.
Schm. = J. K. Schmidt.
Schmidt, A.
Schneider, A.
Schrad. = Heinrich Adolph Schrader.
Schrank = E. P. von Schrank.
Schrenk = Hermann von Schrenk.
Schroet. = J. Schroeter.
Schultz, E. S.
Schulz. = S. Schulzer von Muggenburg.
Schum. = Christian Friedrich Schumacher.
Schw. = Lewis David von Schweinitz.
Scrib. = F. L. Scribner.
Seaver = F. J. Seaver.
Seym. = A. B. Seymour.
Shaw, F. J. F.
Shear = C. L. Shear.
Sheld. = J. L. Sheldon.
Sherb. = C. D. Sherbakoff.
Sideris, C. P.
Siegler, E. A.
Slagg, C. M.
Smith, C. O.
Smith, E. H.
Smith, R. E.
Smith, W. G.
Southworth, E. A.
Sow. = J. Sowerby.
Spauld. = Perley Spaulding.
Speg. = C. Spegazzini.
Stein. = J. G. Steinbuch.
Stevens, F. L.
Stewart, F. C.
Stewart, V. B.
Ston. = Bertha M. Stoneman.
Stone, R. E.
Sw. = Walter T. Swingle.
Syd. = H. and P. Sydow.
Tak. = Yoshiro Takahashi.
Tassi, F.
Taub. = J. J. Taubenhaus.
Tehon, L. R.
Tharp = B. C. Tharp.
Thax. = Roland Thaxter.
Thom, Ch.
Thomas, F.
Thomas, R. C.
Thore, Jean.
Thuem. = F. von Thuemen.
Tiegh. = P. E. L. van Tieghem.
Tisdale, W. B.
Tode = Heinrich J. Tode.
Town. = C. O. Townsend.
Tr. = S. M. Tracy.
Trel. = W. Trelease.
Trev. = V. Trevisan.
Tub. = Karl Freiherr von Tubeuf.
Tul. = L. R. Tulasne or C. and L. R. Tulasne.
Turconi, M.
Underw. = Lucien Marcus Underwood.
Ung. = F. Unger.
Vahl = Martin Vahl.
Van Breda de Haan = J. van Breda de Haan.
Van Hall = Constant Johan Jacob van Hall.
Vester. = T. Vestergren.
Viala = P. Viala.

Vogl. = P. Voglino.
Waite, M. B.
Wakker, J. H.
Wallr. = Karl Friedrich Wilhelm Wallroth.
Weber, G. F.
Wehmer, C.
Weir = J. R. Weir.
Welch, D. C.
Went, F. A.
West. = G. D. Westendorp.
Wetts. = Richard von Wettstein.
Whet. = H. H. Whetzel.
Wilcox, E. M.
Williamson, M. M.
Wils. = G. W. Wilson.
Wilson, M.
Wingard, S. A.
Wint. = G. Winter.
Wolf = F. A. Wolf.
Woll. = H. W. Wollenweber.
Wor. = M. S. Woronin.
Wormald, H.
Wrob. = A. Wroblewski.
Wulf. = Franz Xavier von Wulfen.
Young, E.
Young, P. A.
Zeller, S. M.
Zinssmeister, C. L.
Zopf = Friederich Wilhelm Zopf.

## LIST OF DISEASES

[An asterisk (*) shows that the name of the host given differs from that appearing in Standardized Plant Names; nonpar. = nonparasitic; undet. = undetermined.]

**ABIES.**

*A. amabilis*, cascade fir.

*Calyptospora columnaris* (Alb. and Schw.) Kuehn, leaf blister rust. Wash.
*Dimerosporium* sp., sooty mold. Wash.
*Echinodontium tinctorium* Ell. and Ev., brown stringy rot. Wash., Oreg.
*Fomes annosus* Fr., white spongy rot. Wash.
*F. pinicola* Fr., brown crumbly rot. General with host.
*Hypoderma robustum* Tub., needle cast. Oreg.
*Hypodermella abietis-concoloris* Dearn., needle cast. Oreg.
*Melampsorella elatina* (Alb. and Schw.) Arth.
*Polyporus schweinitzii* Fr., red-brown butt-rot. Oreg.
*Pucciniastrum pustulatum* (Pers.) Diet., leaf blister rust. Wash.
*Razoumofskya douglasii* (Engelm.) Piper, mistletoe. Wash.
*R. occidentalis abietina* (Engelm.) Coville, mistletoe witches'-broom. Oreg.
*Uredinopsis copelandii* Syd., leaf blister rust. Wash., Oreg.
*U. pteridis* Diet. and Holw., rust. Wash.

*A. balsamea*, balsam fir.

*Calyptospora columnaris* (Alb. and Schw.) Kuehn, leaf blister rust. Northern States.
*Fomes pinicola* Fr., brown crumbly rot. N. Y.
*F. roseus* (Alb. and Schw.) Fr., brown pocket rot. General within range of host.
*Lophodermium nervisequium* (DC.) Rehm, needle cast. Adirondack region.
*Melampsora americana* Arth., rust. Vt., Mich., Wis.
*Melampsorella elatina* (Alb. and Schw.) Arth., rust witches'-broom. New England, N. Y., Lake States.
*Nectria cucurbitula* Fr., bark canker. N. Y., Pa.
*Polyporus schweinitzii* Fr., red-brown butt-rot. General with host.
*Pucciniastrum pustulatum* (Pers.) Diet., leaf blister rust. Wis., Mich.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Common.
*Uredinopsis* sp. (*Peridermium balsameum* Pk.), leaf blister rust. N. H., N. Y., Pa., Wis., Minn., Wash.

*A. concolor*, white fir.

*Calyptospora columnaris* (Alb. and Schw.) Kuehn, leaf blister rust. Oreg., Calif.
*Echinodontium tinctorium* Ell. and Ev., brown stringy rot. Common in Western States.
*Fomes officinalis* Fr., reddish brown-rot. Western States.
*F. pinicola* Fr., brown crumbly rot. General in range of host.
*Herpotrichia nigra* Hartig, matting. Calif.
*Hypodermella abietis-concoloris* Dearn., needle cast. Colo., Oreg.
*Lophodermium nervisequium* (DC.) Rehm, needle cast. Oreg., Calif.
*Melampsora americana* Arth., rust. Colo.
*Peridermium ornamentale* Arth., rust. Oreg., Calif.

**ABIES**—Continued.

*A. concolor*, white fir—Continued.

*Phacidium infestans* Karst., needle blight. Idaho.
*Polyporus schweinitzii* Fr., red-brown butt-rot. General with host.
*Pucciniastrum pustulatum* (Pers.) Diet., rust. Colo.
*Razoumofskya douglasii abietina* (Engelm.) Piper, mistletoe. Ariz. to Oreg.
*R. occidentalis abietina* (Engelm.) Coville, mistletoe witches'-broom. Utah, Oreg., Calif.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Calif.

*A. grandis*, great silver fir.

*Botrytis* sp., seedling twig-blight. Idaho.
*Calyptospora columnaris* (Alb. and Schw.) Kuehn, leaf blister rust. Mont.
*Dimerosporium* sp., sooty mold. Wash.
*Echinodontium tinctorium* Ell. and Ev., brown stringy rot. Mont., Idaho, Pacific coast.
*Fomes officinalis* Fr., reddish brown-rot. Idaho.
*F. pinicola* Fr., brown crumbly rot. Idaho, Wash.
*Herpotrichia nigra* Hartig, matting. Idaho.
*Hydnum* sp., hollow pocket rot. Idaho, Wash.
*Lophodermium abietis* Rostr., needle cast. Pacific Northwest.
*L. nervisequium* (DC.) Rehm, needle cast. Idaho.
*Melampsora americana* Arth., rust. Idaho, Wash., Oreg.
*M. arctica* Rostr., rust. Idaho, Mont.
*Melampsorella elatina* (Alb. and Schw.) Arth., rust witches'-broom. Pacific Northwest.
*Peridermium rugosum* Jack., rust. Wash., Oreg.
*Phacidium infestans* Karst., needle blight. Idaho.
*Polyporus dryadeus* (Pers.) Fr., heart-rot. Pacific Northwest.
*P. schweinitzii* Fr., red-brown butt-rot. General with host.
*P. sulphureus* (Bull.) Fr., brown-checked wood-rot.
*Pucciniastrum pustulatum* (Pers.) Diet., leaf blister rust. Idaho, Mont., Oreg., Wash.
*Razoumofskya douglasii* (Engelm.) Piper, mistletoe. Pacific coast, Idaho.
*R. occidentalis abietina* (Engelm.) Coville, mistletoe witches'-broom. Idaho, Oreg., Calif.
*Rhizina inflata* (Schaeff.) Sacc., seedling blight. Mont.
*Uredinopsis copelandii* Syd., leaf blister rust. Pacific Northwest.
*U. pteridis* Diet. and Holw., rust. Mont., Idaho, Wash., Oreg., Calif.

*A. lasiocarpa*, alpine fir.

*Calyptospora columnaris* (Alb. and Schw.) Kuehn, leaf blister rust. Idaho, Mont., Wyo., Colo., Oreg.
*Echinodontium tinctorium* Ell. and Ev., brown stringy rot. Mont.
*Fomes pinicola* Fr., brown crumbly rot. General within range of host.
*Herpotrichia nigra* Hartig, matting. Colo., Wyo., Idaho.
*Melampsora americana* Arth., rust. Wash.
*M. arctica* Rostr., rust. Idaho, Mont.
*Melampsorella elatina* (Alb. and Schw.) Arth., rust witches'-broom. Mont., Wyo., Utah.
*Peridermium ornamentale* Arth., rust. Oreg.
*Phacidium infestans* Karst., needle blight. Idaho.
*Polyporus schweinitzii* Fr., red-brown butt-rot.
*Pucciniastrum pustulatum* (Pers.) Diet., leaf blister rust. Mont., Oreg., Colo., Idaho, Alaska.
*Razoumofskya douglasii* (Engelm.) Piper, mistletoe. Colo., Mont.
*R. laricis* Piper, mistletoe witches'-broom. Mont.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Common with host.
*Uredinopsis copelandii* Syd., leaf blister rust. Colo.

*A. magnifica*, red fir.

*Calyptospora columnaris* (Alb. and Schw.) Kuehn, leaf blister rust. Calif., Oreg.
*Echinodontium tinctorium* Ell. and Ev., brown stringy rot. Calif.
*Fomes officinalis* Fr., reddish brown-rot. Calif.
*F. pinicola* Fr., brown crumbly rot. General within range of host.

**ABIES**—Continued.

*A. magnifica*, red fir—Continued.

*Herpotrichia nigra* Hartig, matting. Calif.
*Lophodermium nervisequium* (DC.) Rehm, needle cast. Calif.
*Polyporus schweinitzii* Fr., red-brown butt-rot. General with host.
*P. sulphureus* (Bull.) Fr., brown-checked wood-rot.
*Razoumofskya douglasii* (Engelm.) Piper, mistletoe. Calif.
*R. occidentalis abietina* (Engelm.) Coville, mistletoe witches'-broom. Oreg., Calif.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Calif.

*A. nobilis*, noble fir.

*Echinodontium tinctorium* Ell. and Ev., brown stringy rot. Common in Western States.
*Fomes pinicola* Fr., brown crumbly rot. Common with host.
*Hypoderma robustum* Tub., needle cast. Oreg.
*Hypodermella abietis-concoloris* Dearn., needle cast. Oreg.
*Polyporus schweinitzii* Fr., red-brown butt-rot. General.
*Pucciniastrum pustulatum* (Pers.) Diet., rust. Oreg.
*Razoumofskya douglasii* (Engelm.) Piper, mistletoe. Wash.
*R. occidentalis abietina* (Engelm.) Coville, mistletoe witches'-broom. Oreg.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Common within range of host.
*Uredinopsis pteridis* Diet. and Holw., rust. Oreg.

*A. veitchii*, Veitch fir.

*Fusicoccum abietinum* (Hartig) Prill. and Del. Ohio.

**ACACIA.**

*A. farnesiana*, sweet acacia.

*Ravenelia australis* Diet. and Neg., rust. Tex.
*R. siliquae* Long, rust. Tex., N. Mex.

**ACER.**

*A. circinatum*, vine maple.

*Cytospora chrysosperma* (Pers.) Fr., canker. Mont.
*Nectria galligena* Bres., European canker. Oreg.
*Septoria aceris-macrophylli* Pk., leaf-spot. Wash.
*S. circinata* Ell. and Ev., leaf-spot. Wash., Oreg.

*A. dasycarpum*, silver maple.

*Fomes fomentarius* (L.) Fr., white sapwood rot.
*F. igniarius* (L.) Fr., white heart-rot. Vt., N. Y.
*Gloeosporium acerinum* West., leaf-blight. Kans., Mo.
*G. apocryptum* Ell. and Ev., leaf-blight. N. J.
*Pholiota adiposa* Fr., wood-rot. Del.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Ind.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Wis.
*Phyllosticta minima* (Berk. and Curt.) Ell. and Ev., leaf-spot. General east of Great Plains.
*P. minutissima* Ell. and Ev., leaf-spot. Wis.
*Polyporus delectans* Pk. D. C.
*Rhytisma acerinum* (Pers.) Fr., tar-spot. General east of Great Plains.
*Septogloeum acerinum* (Pass.) Sacc., leaf-spot. Ala.
*Septoria acerina* Pk., leaf-spot. N. Y.
*S. saccharina* Ell. and Ev., leaf-spot. New England, N. Y., Wis.
*S. salliae* W. R. Gerard, leaf-spot. N. Y.
*Taphrina* sp., leaf blister. Mich.
*Uncinula circinata* Cke. and Pk., powdery mildew. General east of Great Plains.
*Verticillium* sp., wilt. Va.

*A. glabrum*, Rocky Mountain maple.

*Cylindrosporium consociatum* Dearn., leaf-spot. Pacific Northwest.
*Cytospora chrysosperma* (Pers.) Fr., canker. Mont., Pacific Northwest.
*Fomes igniarius* (L.) Fr., white heart-rot. Central States.
*Phyllosticta minima* (Berk. and Curt.) Ell. and Ev., leaf-spot. Rocky Mts. and Pacific Northwest.

**ACER**—Continued.

*A. glabrum*, Rocky Mountain maple—Continued.

*Septoria acerina* Pk., leaf-spot. Oreg.
*S. circinata* Ell. and Ev., leaf-spot. Colo., Calif.
*S. saccharina* Ell. and Ev., leaf-spot. Wash.

*A. macrophyllum*, Oregon maple.

*Cercosporella aceris* Dearn. and Barth., leaf-spot. Wash., Oreg.
*C. albopunctata* Ell. and Ev., leaf-spot. Wash.
*Fomes igniarius* (L.) Fr., white heart-rot. Western States.
*Nectria cinnabarina* Fr., canker. Wash.
*N. galligena* Bres., European canker. Oreg.
*Rhytisma acerinum* (Pers.) Fr., tar-spot. Wash.
*R. punctatum* (Pers.) Fr., black-specked leaf-spot. Pacific coast.
*Septoria aceris-macrophylli* Pk., leaf-spot. Wash.
*S. circinata* Ell. and Ev., leaf-spot. Wash., Oreg.

*A. negundo*, boxelder.

*Cercospora negundinis* Ell. and Ev., leaf-spot. Nebr.
*Cylindrosporium negundinis* Ell. and Ev., leaf-spot. Nebr., Kans.
*Fusarium negundi* Sherb., red-stain. General with host.
*Gloeosporium apocryptum* Ell. and Ev., anthracnose. Wis., Ill., Kans., Okla.
*G. negundinis* Ell. and Ev., leaf-blight. Del., Tex.
*Nectria cinnabarina* Fr., canker. Ohio, Minn., N. Dak.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phleospora aceris* (Lib.) Sacc., leaf-spot. Calif.
*Phyllosticta arida* Earle, leaf-spot. Ala.
*P. minima* (Berk. and Curt.) Ell. and Ev., leaf-spot. Conn.
*P. negundinis* Sacc. and Speg., leaf-spot. Me., R. I., W. Va., Ala.
*Pleurotus ostreatus* Jacq., white line rot. N. Dak., S. Dak., Nebr.
*P. ulmarius* Bull., white sap-rot. Iowa, Kans.
*Polyporus squamosus* (Huds.) Fr., white strand-rot. Minn.
*Rhytisma punctatum* (Pers.) Fr., black-specked leaf-spot. N. Y.
*Septogloeum acerinum* (Pass.) Sacc., leaf-spot. Calif.
*Septoria acerella* Sacc., leaf-spot. Mo., Mont.
*S. marginata* Heald and Wolf, leaf-spot. Tex.
*S. negundinis* Ell. and Ev., leaf-spot. Mass., Utah.
*S. samarae* Pk., leaf-spot. Colo.
*Sphaeropsis albescens* Ell. and Ev., twig-blight. S. Dak., Kans.
*Stereum purpureum* Pers., silver leaf. S. Dak.

*A. negundo californicum*, California boxelder.

*Phleospora aceris* (Lib.) Sacc., leaf-spot. Calif.
*P. californica* Ell. and Ev., leaf-spot. Calif.
*Septoria marginata* Heald and Wolf, leaf-spot. Tex.

*A. nigrum*, black maple.

*Gloeosporium saccharinum* Ell. and Ev., leaf-blight. Iowa.
*Rhytisma punctatum* (Pers.) Fr., black-specked leaf-spot. W. Va.
*Taphrina* sp., leaf blister. Ohio.

*A. palmatum*, Japanese maple.

*Nectria cinnabarina* Fr., canker. Conn., Pa.
*Pseudographium* sp., twig canker. Wash.

*A. pennsylvanicum*, striped maple, *moosewood.

*Fomes igniarius* (L.) Fr., white heart-rot. Vt., N. Y.
*Gloeosporium acerinum* West., leaf-blight. Vt.
*G. apocryptum* Ell. and Ev., anthracnose. Pa.
*Phleospora aceris* (Lib.) Sacc., leaf-spot. Pa.
*Phyllosticta minutissima* Ell. and Ev., leaf-spot. N. Y., Pa.
*Rhytisma punctatum* (Pers.) Fr., tar-spot. W. Va.
*Septoria acerina* Pk., leaf-spot. New England, N. Y., Pa.
*Uncinula circinata* Cke. and Pk., powdery mildew. N. Y.

*A. platanoides*, Norway maple.

*Gloeosporium apocryptum* Ell. and Ev., anthracnose. Me., N. Y.
*Microstroma* sp., leaf mildew. Ohio, Ill.

**ACER**—Continued.

*A. platanoides*, Norway maple—Continued.

*Nectria cinnabarina* Fr., canker. N. Y., N. J., Pa.
*Phyllosticta minima* (Berk. and Curt.) Ell. and Ev., leaf-spot. Va., Mo.
*P. platanoides* Sacc., leaf-spot. N. J.
*Rhytisma acerinum* (Pers.) Fr., tar-spot. N. Y.
*Verticillium* sp., wilt. General east of Miss. River.

*A. pseudoplatanus*, sycamore maple.

*Phyllosticta minima* (Berk. and Curt.) Ell. and Ev., leaf-spot. Conn.
*Verticillium* sp., wilt. Va.

*A. rubrum*, red maple.

*Cytospora chrysosperma* Fr., canker. Wash.
*Fomes igniarius* (L.) Fr., white heart-rot. Mich.
*F. roseus* (Alb. and Schw.) Fr., brown pocket rot. Md.
*Gloeosporium aceris* Cke., leaf-blight. S. C.
*G. decolorans* Ell. and Ev., leaf-blight. N. Y.
*Nectria cinnabarina* Fr., canker. Va.
*Phleospora aceris* (Lib.) Sacc., leaf-spot. Ind.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Ind.
*Phyllosticta minima* (Berk. and Curt.) Ell. and Ev., leaf-spot. General east of Miss. River; Minn.
*Rhytisma acerinum* (Pers.) Fr., tar-spot. General east of Miss. River.
*Taphrina* sp., leaf blister. N. Y., N. C.
*Uncinula circinata* Cke. and Pk., powdery mildew. General east of Miss. River.
*Verticillium* sp., wilt. N. Y., Md., Va.

*A. saccharum*, sugar maple.

*Armillaria mellea* (Vahl) Quel., root-rot. N. Y.
*Fomes applanatus* (Pers.) Wallr. (*Ganoderma applanatum* (Pers.) Pat.), white streaked rot. N. Y.
*F. fomentarius* (L.) Fr., white sapwood rot. New England, N. Y.
*F. igniarius* (L.) Fr., white heart-rot. N. Y.
*F. pinicola* Fr., brown crumbly rot. N. Y.
*Gloeosporium* sp., leaf-blight. N. Y.
*G. apocryptum* Ell. and Ev., anthracnose. Pa.
*G. hysterioideum* Dearn. and Barth., leaf-blight. N. Y.
*Hydnum septentrionale* Fr., white sapwood rot. Mass.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Ind.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Iowa.
*Phyllosticta minima* (Berk. and Curt.) Ell. and Ev., leaf-spot. Mass., Pa., Ind., Mo.
*Polyporus sulphureus* (Bull.) Fr., brown-checked wood-rot. N. Y.
*Rhytisma punctatum* (Pers.) Fr., tar-spot. Pa.
*Taphrina* sp., leaf blister. Me., N. H., N. Y., Pa., Ga., Ind., Mich., Mo.
*Uncinula circinata* Cke. and Pk., powdery mildew. N. Y., Ind., Iowa., Mo.
*Verticillium* sp., wilt. Conn. south to Va. and Tenn.

*A. spicatum*, mountain maple.

*Fomes applanatus* (Pers.) Wallr. (*Ganoderma applanatum* (Pers.) Pat.), white-streaked rot. N. Y.
*F. igniarius* (L.) Fr., white heart-rot. N. Y.
*Phyllosticta minima* (Berk. and Curt.) Ell. and Ev., leaf-spot. N. Y., Wis.
*P. platanoides* Sacc., leaf-spot. N. Y.
*Rhytisma punctatum* (Pers.) Fr., black-specked leaf-spot. New England, N. Y., Pa.
*Septoria acerina* Pk., leaf-spot. W. Va.
*Uncinula circinata* Cke. and Pk., powdery mildew. N. Y.

**ACHRAS.**

*A. sapota*, *sapote, sapodilla.

*Pestalozzia scirrofaciens* N. Brown, hard-gall. Fla.

**ACONITUM.**

*Aconitum* sp., monkshood

*Erysiphe polygoni* DC. powdery mildew. W. Va.
*Urocystis sorosporioides* Koern., smut. Utah.
*Uromyces aconiti* Fckl., rust. Colo., Utah, Calif.

**AESCULUS.**

*A. californica,* California buckeye.

*Exoascus aesculi* (Ell. and Ev.) F. Patterson, witches'-broom. Calif.
*Gloeosporium carpogenum* Cke., leaf-blight. Calif.
*Phoradendron villosum* Nutt., mistletoe. Oreg., Calif.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Calif.
*Septoria aesculi* (Lib.) West., leaf-spot. Calif.

*A. glabra,* Ohio buckeye.

*Aecidium aesculi* Ell. and Kell., rust. Nebr., Kans.
*Guignardia aesculi* (Pk.) V. B. Stewart, leaf-blotch. Miss. Valley and Ohio Valley.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Eastern States.
*Phyllosticta aesculicola* Sacc., leaf-spot. Va., Tex., Mo.
*Septoria glabrae* Ell. and Ev., leaf-spot. Ind.
*Uncinula flexuosa* Pk., powdery mildew. Miss. Valley and Ohio Valley.

*A. hippocastanum,* horsechestnut.

*Botryosphaeria ribis* Gross. and Dug., blight. N. Y., D. C.
*Collybia velutipes* Curt., white sap-rot. R. I.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose. Conn., N. Y.
*Guignardia aesculi* (Pk.) V. B. Stewart, leaf-blotch. General, especially east of Rocky Mts.
*Nectria cinnabarina* Fr., coral spot. New England, N. Y.
*Septoria* sp., leaf-spot. Pa.
*Uncinula flexuosa* Pk., powdery mildew. Mass., N. Y., N. J., Del., Ind.

*A. octandra,* yellow buckeye.

*Guignardia aesculi* (Pk.) V. B. Stewart, leaf-blotch. Tex., Iowa.
*Phyllosticta aesculicola* Sacc., leaf-spot. Tex.
*Uncinula flexuosa* Pk., powdery mildew. Ala.

*A. pavia,* red buckeye.

*Guignardia aesculi* (Pk.) V. B. Stewart, leaf-blotch. Ala., Miss.
*Phyllosticta aesculicola* Sacc., leaf-spot. Miss.
*Uncinula flexuosa* Pk., powdery mildew. Ala.

**AGROPYRON.**

**A. repens,* couchgrass, quackgrass.

*Bacterium coronafaciens atropurpureum* C. S. Reddy and James Godkin, bacterial blight. Wis., N. Dak.
*Claviceps purpurea* (Fr.) Tul., ergot. Occurs scatteringly throughout the range of host.
*Colletotrichum graminicolum* (Ces.) Wils., anthracnose. N. Y., Pa., Minn.; probably other States.
*Erysiphe graminis* DC., powdery mildew. N. Y., Pa., Mich., Minn., Mont.
*Helminthosporium giganteum* Heald and Wolf, leaf-spot. D. C., Md.
*H. sativum* Pam., King, and Bak., spot-blotch. Wis., N. Dak.
*Ophiobolus graminis* Sacc., take-all. N. Y.
*Phyllachora graminis* (Pers.) Fckl., tar-spot. General throughout range of host.
*Phyllosticta* sp., leaf-spot. Pa.
*Puccinia clematidis* (DC.) Lagh., leaf-rust. General.
*P. coronata* Cda., rust. Vt.
*P. graminis* Pers., stem-rust. General.
*Pyrenophora tritici-repentis* (Died.) Drechs., leaf-blight. Wis.
*Septoria agropyri* Ell. and Ev., leaf-spot. Wis.
*Tilletia earlei* Griff., covered smut. N. Dak.
*Urocystis agropyri* (Preuss) Schroet., smut. Vt., Mass., Conn., N. Y., Pa.
*Ustilago hypodytes* (Schl.) Fr., smut. N. Y.
*U. macrospora* Desm., smut. Mass., Wis., Iowa.
*U. striaeformis* (West.) Niessl, stripe-smut. N. Y.

**AGROSTIS.**

*A. capillaris,* bentgrass.

*Puccinia graminis* Pers., stem-rust. General east of Great Plains.
*Scolecotrichum graminis* Fckl., leaf-spot. Ind.
*Ustilago striaeformis* (West.) Niessl, stripe-smut. Conn., Miss. Valley.

*A. palustris,* redtop.

*Claviceps purpurea* (Fr.) Tul., ergot. Pa., Mich., Minn., N. Dak.
*Colletotrichum graminicolum* (Ces.) Wils., anthracnose. Pa.
*Corticium vagum* Berk. and Curt., root-rot. General.
*Erysiphe graminis* DC., powdery mildew. Minn.
*Helminthosporium dematioideum* Bub. and Wrob., leaf-spot. Conn., N. Y.
*Ophiobolus graminis* Sacc., take-all. N. Y.
*Puccinia graminis* Pers., stem-rust. General east of Great Plains.
*Pythium* sp., damping-off. Conn.
*Sclerotium rhizodes* Auer., Sclerotium blight. Conn.
*Scolecotrichum graminis* Fckl., leaf-spot. Pa., Wis.
*Urocystis agropyri* (Preuss) Schroet., smut. Pa., Wis.
*Ustilago striaeformis* (West.) Niessl, stripe-smut. General east of Great Plains.

*A. stolonifera,* carpet bentgrass.

*Corticium vagum* Berk. and Curt., root-rot. General.
*Helminthosporium giganteum* Heald and Wolf, leaf-spot. D. C.
*H. stenacrum* Drechs., leaf-spot. Conn.

**AILANTHUS.**

*A. glandulosa,* tree-of-heaven.

*Cercospora glandulosa* Ell. and Kell., leaf-spot. Ala., Ill., Kans., Nebr., Tex.
*Nectria cinnabarina* Fr., canker. N. J., Kans.

**ALLIUM.**

*A. ascalonicum,* shallot.

*Colletotrichum circinans* (Berk.) Vogl., smudge. Ill., Wis.
*Heterodera radicicola* (Greef) Muell., root-knot.
*Peronospora schleideni* Ung., downy mildew. La.

*A. cepa,* onion.

*Aspergillus niger* Tiegh., black-mold. General.
*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. General.
*B. cepivorus* Del., rot. W. Va.
*Botrytis* sp., gray-mold. General.
*B. allii* M. T. Munn, neck-rot. N. Y., Ohio, Ill., Mich., Wis., Pacific Northwest.
*B. byssoidea* Walker, mycelial neck-rot. Conn., Ill., Wis.
*B. squamosa* Walker, small sclerotial neck-rot. Ill., Wis.
*Colletotrichum circinans* (Berk.) Vogl., smudge. General east of Great Plains.
*Corticium vagum* Berk. and Curt., stem-rot. Ohio, Wash.
*Cuscuta* sp., dodder. Ill., Wis., Calif.
*Fusarium* sp., root-rot. Frequent occurrence.
*F. cepae* J. Hanzawa, bulb rot. Ill.
*F. malli* Taub., pink-root. Occurs in widely scattered States.
*Heterodera radicicola* (Greef) Muell., root-knot. Tex., Ind.
*Macrosporium porri* Ell., mold. New England, Miss., Ind., Utah.
*M. sarcinula parasiticum* Thuem., black stalk-rot. General.
*Peronospora schleideni* Ung., downy mildew. General.
*Puccinia porri* (Sow.) Wint., rust. Conn.
*Pythium debaryanum* Hesse, damping-off. Mass.
*Sclerotium cepivorum* Berk., white-rot. Va., Ky., Oreg.
*S. rolfsii* Sacc., stem-rot. Ala.
*Urocystis cepulae* C. C. Frost, smut. General.

**ALLIUM**—Continued.

*A. sativum*, garlic.

*Macrosporium sarcinula parasiticum* Thuem., black stalk-rot. La.
*Sclerotium cepivorum* Berk., white-rot. Oreg.
*S. rolfsii* Sacc., stem-rot. La.
*Tylenchus dipsaci* (Kuehn) Bast., bulb nematode. Calif.

*A. schoenoprasum*, chives.

*Puccinia porri* (Sow.) Wint., rust. Conn.

**ALNUS.**

*A. incana*, speckled alder.

*Cylindrosporium vermiforme* Davis, leaf-spot. Wis.
*Erysiphe aggregata* (Pk.) Farl., powdery mildew. Me., N. Y., Wis.
*Exoascus tosquinetii* Sacc., catkin deformation. Minn.
*Hymenochaete agglutinans* Ell., stem girdling. Pa.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. New England, N. Y., Wis.
*Taphrina robinsoniana* Gies., catkin deformation. N.Y., Md., Va.

**A. rhombifolia*, white alder.

*Fomes igniarius* (L.) Fr., white heart-rot. Common in host range.
*Melampsoridium alni* (Thuem.) Diet., rust. Calif.

**A. rubra*, alder.

*Cercosporella alni* Dearn. and Barth., leaf-spot. Wash., Oreg.
*Exoascus* sp., catkin deformation. Wash., Oreg.
*Fomes applanatus* (Pers.) Wallr. (*Ganoderma applanatum* (Pers.) Pat.), white-streaked rot. Wash.
*F. igniarius* (L.) Fr., white heart-rot. Common in host range.
*Gnomonia alni* Plow., leaf-spot. Calif.
*Gnomoniella tubiformis* (Tode) Sacc., black-spot. Oreg.
*Melampsoridium alni* (Thuem.) Diet., rust. Calif.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Wash., Oreg.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Wash.
*Polystictus hirsutus* (Wulf.) Fr., white-rot.
*Septoria alnifolia* Ell. and Ev., leaf-spot. Wash., Oreg.

*A. rugosa*, hazel alder.

*Erysiphe aggregata* (Pk.) Farl., powdery mildew. N. Y., W. Va.
*Exoascus tosquinetii* Sacc., catkin deformation. Me., Mass., Ala.
*Gnomoniella tubiformis* (Tode) Sacc., black-spot. Pa.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Ala.
*Mycosphaerella hippocastani* (Otto Jaap) Kleb., leaf-spot. N. Y.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Ala., Ohio.
*Taphrina robinsoniana* Gies., catkin deformation. Md., Va.

**A. sinuata*, alder.

*Microsphaera alni* (Wallr.) Wint., powdery mildew. Alaska.
*Phyllachora* sp., leaf-spot. Wash.

*A. tenuifolia*, mountain alder.

*Cylindrosporium* sp., leaf-spot. Mont.
*Exoascus* spp., catkin deformation. Mont., Idaho, Oreg.
*E. tosquinetii* Sacc., catkin deformation. Idaho.
*Fomes igniarius* (L.) Fr., white heart-rot. Mont.
*Gnomoniella tubiformis* (Tode) Sacc., black-spot. Oreg.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Colo., N. Mex., Idaho, Oreg.
*Polystictus hirsutus* (Wulf.) Fr., white-rot.

**ALTHAEA.**

*A. rosea*, hollyhock.

*Alternaria* sp., leaf-spot. Del., Mich., Nebr.
*Ascochyta althaeina* Sacc. and Bizz., leaf-spot. N. Y.
*A. parasitica* Fautr., leaf-spot. Conn., Del., W. Va.
*Cercospora althaeina* Sacc., leaf-spot. General east of Great Plains.
*C. kellermanii* Bub., leaf-spot. Ind., Ohio.
*C. nebulosa* Sacc., leaf-spot. Nebr.

**ALTHAEA**—Continued.

*A. rosea*, hollyhock—Continued.

*Colletotrichum malvarum* (Braun and Casp.) E. A. Southworth, anthracnose. N. Y., Ohio, Ind., Iowa.
*Heterodera radicicola* (Greef) Muell., root-knot.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phyllosticta althaeina* Sacc., leaf-spot. N. Y., W. Va., Ohio.
*Puccinia hibisciata* (Schw.) Kell., rust. Nebr.
*P. malvacearum* C. G. Bertero, rust. General.
*P. sherardiana* Koern., rust. Calif.
*Septoria fairmani* Ell. and Ev., leaf-spot. N. Y.

**AMARYLLIS.**

*A. belladonna*, belladonna-lily.

*Botrytis* sp., rot. Calif.
*Cercospora amaryllidis* Ell. and Ev., leaf-spot. La.

**AMELANCHIER.**

*Amelanchier* sp., shadblow (*serviceberry, *juneberry, *shadbush, *saskatoon)

*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A B.), blight. Wash.
*Dimerosporium collinsii* (Schw.) Thuem. General.
*Erysiphe polygoni* DC., powdery mildew. Mont.
*Fabraea maculata* (Lév.) Atk., leaf-blight. Ala., Ind., N. Dak., Kans., Mont., Idaho.
*Gymnosporangium blasdaleanum* (Diet. and Holw.) Kern, rust. Oreg., Calif.
*G. botryapites* (Schw.) Kern, rust. Mass., Conn., N. Y., N. J., Pa.
*G. clavariaeforme* (Jacq.) DC., rust. N. Y. to Del., west to Utah.
*G. corniculans* Kern, rust. Vt. to Iowa, south to W. Va.
*G. germinale* (Schw.) Kern, rust. New England; N. Y., Mich., Wis.
*G. inconspicuum* Kern, rust. Colo., N. Mex., Utah.
*G. juvenescens* Kern, rust. Northern Great Plains States; Wis., Idaho.
*G. kernianum* Bethel, rust. Oreg.
*G. nelsoni* Arth., rust. Rocky Mt. States; Nebr.
*G. nidus-avis* Thax., rust. Mass. to Wis.; south to N. C.
*Nummularia discreta* (Schw.) Tul., blister canker. Mass., Ohio, Kans.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Wash.
*Phyllosticta innumerabilis* Pk., leaf-spot. Nebr.
*P. paupercula* Pk., leaf-spot. Kans.
*P. virginiana* (Ell. and Hals.) Seaver, leaf-spot. N. Y., Pa., Wis.
*Plowrightia morbosa* (Schw.) Sacc., black-knot. Minn., Mont.
*Podosphaera oxyacanthae* (DC.) D By., powdery mildew. Mass., Minn., Mo., Nebr.
*Sclerotinia amelanchieris* J. M. Reade, fruit-rot, blight. N. Y.
*S. gregaria* B. F. Dana, blight. Wash.

**AMMOPHILA.**

*A. arenaria*, beachgrass.

*Claviceps purpurea* (Fr.) Tul., ergot. Mich.
*Ustilago striaeformis* (West.) Niessl, stripe smut. New England Coast States.

**AMORPHA.**

*A. fruticosa*, indigobush.

*Cercospora passaloroides* Wint., leaf-spot. Ala., Ill., Nebr., Kans.
*Uropyxis amorphae* (Curt.) Schroet., rust. General east of Rocky Mts.

**AMPELOPSIS.**

*A. arborea*, peppervine.

*Cercospora arboriae* Tharp, leaf-spot. Tex.
*C. viticola* (Ces.) Sacc., leaf-spot. La.
*Guignardia bidwellii* (Ell.) Viala and Ravaz, black-rot. Miss.

*A. cordata*, heartleaf ampelopsis.

*Cercospora truncata* Ell. and Ev., leaf-spot. La.
*C. viticola* (Ces.) Sacc., leaf-spot. Ala., La.

**AMPELOPSIS**—Continued.

*A. quinquefolia*, Virginia creeper.

*Cercospora ampelopsidis* Pk., leaf-spot. General east of Great Plains.
*C. psedericola* L. R. Tehon, leaf-spot. Ill.
*C. pustula* Cke., leaf-spot. Occurs in widely scattered States east of Great Plains.
*Cladosporium herbarum* Lk., die-back. N. J.
*Guignardia bidwellii* (Ell.) Viala and Ravaz, black-rot. General east of Great Plains.
*Phyllosticta viticola* (Berk. and Curt.) Thuem., leaf-spot. General.
*Plasmopara viticola* (Berk. and Curt.) Berl. and DeToni, downy mildew. Me., Ala., Wis., Iowa.
*Septogloeum ampelopsidis* (Ell. and Ev.) Sacc., leaf-spot. Ill , Wis., Iowa, Nebr.
*Septoria ampelopsidis* Ell., leaf-spot. Nebr.
*Uncinula necator* (Schw.) Burr., powdery mildew. General east of Great Plains.

*A. tricuspidata*, *Boston ivy, Japanese creeper.

*Cladosporium* sp., die-back. N. J.
*Guignardia bidwellii* (Ell.) Viala and Ravaz, black-rot. Atlantic Coast States; Tex.

**AMYGDALUS.**

*A. communis*, almond.

*Armillaria mellea* (Vahl) Quel., root-rot. Calif.
*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. Mass.
*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Ariz., Calif.
*Cercospora circumscissa* Sacc., shot-hole. Oreg., Calif.
*Cladosporium carpophilum* Thuem., scab. Calif.
*Coryneum beijerinckii* Oud., blight. Oreg., Calif.
*Cyphella marginata* McAlp., die-back. Oreg.
*Gloeosporium* sp., fruit-spot and twig-spot. Calif.
*Heterodera radicicola* (Greef) Muell., root-knot. Ariz.
*Pythiacystis citrophthora* E. H. and R. E. Smith, brown-rot, die-back. Calif.
*Sclerotinia fructicola* (Wint.) Rehm (*S. americana* (Wormald) Norton and Ezekiel), brown-rot. Calif.
*Tranzschelia punctata* (Pers.) Arth., rust. Calif.

*A. persica*, peach.

*Armillaria mellea* (Vahl) Quel., root-rot. Miss., Tex., Ark., Ind., Oreg., Calif., Alaska.
*Bacterium cerasi* F. L. Griffin, gummosis. Oreg.
*B. pruni* EFS. (*Phytomonas pruni* (EFS.) Com. S. A. B.), bacterial spot. General east of Rocky Mts.
*B. tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. General.
*Botrytis cinerea* Auct., fruit-rot. Calif.
*Cephalothecium roseum* Cda., pink-rot. Md., Ill., Calif.
*Cercospora circumscissa* Sacc., shot-hole. General.
*C. consobrina* Ell. and Ev., leaf-spot. La., Ill.
*Cercosporella persicae* Sacc., frosty mildew. General.
*Choanephora persicaria* E. D. Eddy, fruit-rot. In storage.
*Cladosporium carpophilum* Thuem., scab. General.
*Clitocybe monadelpha* (Morgan) Sacc., root-rot. Fla., Ark., Mo.
*Comandra pallida* DC., bastard toadflax. Wash.
*Coryneum beijerinckii* Oud., blight. General, especially in Western States.
*Cyphella marginata* McAlp., die-back. Oreg.
*Diplodia natalensis* Ev., gumming. Fla.
*Exoascus deformans* (Berk.) Fckl., leaf-curl. General.
*Fomes pinicola* Fr., brown crumbly rot. Oreg.
*F. roseus* (Alb. and Schw.) Fr., brown pocket rot. Va.
*Fusarium* spp., fruit-rot. Calif.
*F. gemmiperda* Aderh., bud-rot. Ga.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, bitter-rot. Fla., Ark., Ohio.

**AMYGDALUS**—Continued.

*A. persica*, peach—Continued.

*Helminthosporium carpophilum* Lév., pustular spot. N. Y., Ohio, Mich., Utah.
*Heterodera radicicola* (Greef) Muell., root-knot. South Atlantic and Gulf States; Calif.
*Lenzites saepiaria* Fr., heart-rot. Oreg.
*Monilia* sp., western brown-rot. Oreg.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex., N. Mex., Ariz.
*Phoma persicae* Sacc., stem canker. Mass., Conn., Pa., Del., Md., Va., Ohio, Mich.
*Phyllosticta circumscissa* Cke., leaf-spot. N. Y., N. J., Wash.
*Physalospora malorum* (Pk.) Shear (*P. cydoniae* Am. Auct.), black-rot. Del., Ind.
*Podosphaera oxyacanthae* (DC.) D By., powdery mildew. General.
*Polyporus lacteus* Fr., sap-rot and heart-rot.
*Pythiacystis citrophthora* E. H. and R. E. Smith, die-back. Calif.
*Rhizopus nigricans* Ehr., black-mold rot. Conn., Del., Ga., Fla., Ark., Ill., Ind., Kans.
*Sclerotinia cinerea* (Bon.) Schroet. (*Monilia oregonensis* Barss and Posey), blossom blight. Pacific coast.
*S. fructicola* (Wint.) Rehm (*S. americana* (Wormald) Norton and Ezekiel), brown-rot. General.
*Sclerotium rolfsii* Sacc., stem-rot (of seedlings). La.
*Sphaerotheca pannosa* (Wallr.) Lév., powdery mildew. General.
*Stereum purpureum* Pers., silver leaf. N. Y., Md.
*Trametes carnea* (Nees) Cke., wood-rot. Oreg.
*Tranzschelia punctata* (Pers.) Arth., rust. General.
*Valsa leucostoma* (Pers.) Fr., die-back. General.
*Verticillium alboatrum* Reinke and Berth., wilt. N. Y., N. J.
Chlorosis, nonpar. Southwest.
Gummosis, various causes. General.
Little peach, undet. East of Miss. River, especially Middle Atlantic States.
Phoney peach, undet. Central and southern Ga.
Rosette, undet. Tenn., Fla., S. C., Ga., Ala., Miss., La., Okla., Ark., Mo., Kans.
Yellows, nonpar. East of Miss. River and north of Gulf States.

*A. persica nectarina*, nectarine.

*Cladosporium carpophilum* Thuem., scab. Conn., N. Y., Ill.
*Exoascus deformans* (Berk.) Fckl., leaf-curl. Wash.
*Sclerotinia fructicola* (Wint.) Rehm (*S. americana* Norton and Ezekiel), brown-rot. Conn., N. Y.

**ANANAS.**

*A. sativus*, pineapple.

*Spegazzinia ornata* Sacc. Fla.
*Thielaviopsis paradoxa* (DeSeyn.) Hoehn., soft-rot. Fla.
Red wilt, undet. Fla.

**ANCHUSA.**

*A. capensis*, Cape bugloss.

*Puccinia dispersa* Eriks., rust. Ind.

*A. officinalis*, common bugloss.

*Puccinia dispersa* Eriks., rust. Ind.

**ANETHUM.**

*A. graveolens*, dill.

*Cercosporella anethi* Sacc., leaf-spot. N. Dak.

**ANNONA.**

*A. cherimola*, cherimoya.

*Gloeosporium* sp., anthracnose. Fla.
*Uredo cherimoliae* Lagh., rust. Fla.

*A. squamosa*, sugar-apple.

*Uredo cherimoliae* Lagh., rust. Fla.

**ANTIRRHINUM.**

*A. majus,* snapdragon.

*Colletotrichum antirrhini* F. C. Stewart, anthracnose. General east of Miss. River.
*Corticium vagum* Berk. and Curt., rot (of cuttings). N. Y.
*Fusarium* sp., root and crown rot. Wash.
*Heterodera radicicola* (Greef) Muell., root-knot. D. C., Miss., Nebr.
*Phyllosticta antirrhini* Syd., leaf-spot, damping-off. Mass., N. Y., Va., Ind., Minn.
*Puccinia antirrhini* Diet. and Holw., rust. General.
*Pythium* sp., stem-rot, damping-off. N. Y.
*Thielavia basicola* (Berk. and Curt.) Zopf, black root-rot. N. J.
*Verticillium alboatrum* Reinke and Berth., wilt. Mass.

**APIUM.**

*A. graveolens,* celery.

*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. General.
*Bacterium apii* I. C. Jagger (*Phytomonas apii* (Jagger) Com. S. A. B.), bacterial leaf-spot. N. Y., Ind., Mich., Minn.
*Botrytis* sp., gray-mold rot. N. Y., Idaho, Calif.
*Cercospora apii* Fresen., early-blight. General.
*Corticium vagum* Berk. and Curt., root-rot. General.
*Fusarium* sp., pink-root. Fla.
*F.* sp., root-rot. N. J., Fla., Ohio, Calif.
*F.* sp., yellows. Conn., Mass., N. Y., N. J., Pa., Ohio, Mich., Ind., Minn.
*Heterodera radicicola* (Greef) Muell., root-knot. N. J., Va., N. C., S. C., Fla., Ark., Ind., Kans., Calif.
*Phoma apiicola* Speg., root-rot. Ohio, Mich.
*Phyllosticta apii* Hals., leaf-spot. N. J., Del.
*Pythium debaryanum* Hesse, damping-off. Conn.
*Sclerotinia minor* I. C. Jagger, drop. N. Y., Pa., Fla.
*S. sclerotiorum* (Lib.) Mass., foot-rot. General.
*Septoria apii* Rostr., late-blight. General
Bacterial heart-rot. East of Great Plains.
Black-heart, undet. N. Y., Pa., Fla., La., Calif.
Crinkle, nonpar. Pa.
Hollow-stem, nonpar. Pa., Calif.
Mosaic, undet. Mass., N. Y., N. J., Ind., Minn.

**A. graveolens rapaceum,* celeriac.

*Cercospora apii* Fresen., early-blight. Conn.
*Phoma apiicola* Speg., root-rot. N. Y.
*Septoria apii* Rostr., late-blight. Conn., N. Y.

**AQUILEGIA.**

*Aquilegia* spp., columbine.

*Erysiphe polygoni* DC., powdery mildew. Conn., N. Y., Ind., Ohio, Ill., Wis.
*Gloeosporium aquilegiae* Thuem., leaf-spot. Tex.
*Puccinia clematidis* (DC.) Lagh., rust. Ind., Mont., Colo., Utah, Idaho, Oreg., Wash., Calif.
*Sclerotinia sclerotiorum* (Lib.) Mass., crown-rot. Del.
*Urocystis sorosporioides* Koern., rust. Utah.

**ARACHIS.**

*A. hypogaea,* peanut.

*Bacterium solanacearum* EFS. (*Phytomonas solanaceara* (EFS.) Com. S. A. B.), bacterial wilt. N. C.
*Botrytis* sp., stem-rot. Tenn.
*Cercospora personata* (Berk. and Curt.) Ell. and Ev., leaf-spot. General where crop is grown.
*Corticium vagum* Berk. and Curt., stem-rot. N. C., Fla.
*Fusarium vasinfectum* Atk., wilt. Va., Ala.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phoma* sp., stem-rot. Ala.

**ARACHIS**—Continued.

*A. hypogaea*, peanut—Continued.

*Puccinia arachidis* Speg., rust. Fla.
*Sclerotium rolfsii* Sacc., stem-rot. General in South.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot

**ARALIA.**

*A. spinosa*, devils-walkingstick.

*Cercospora atromaculans* Ell. and Ev., leaf-spot. La.
*Phyllosticta everhartii* Sacc. and Syd., leaf-spot. W. Va.

**ARBUTUS.**

*A. menziesii*, madrone.

*Exobasidium vaccinii* (Fckl.) Wor., gall. Calif.
*Mycosphaerella arbuticola* Pk., leaf-spot. Pacific coast.
*Phyllosticta fimbriata* Ell. and Ev., leaf-spot. Oreg.
*Pucciniastrum sparsum* (Wint.) Ed. Fischer, rust. Pacific coast.
*Rhytisma arbuti* Phill., tar-spot. Pacific coast.

**ARCTOSTAPHYLOS.**

*Arctostaphylos* spp., bearberry, manzanita.

*Exobasidium vaccinii* (Fckl.) Wor., red leaf-spot. Colo., Oreg., Wash., Calif.
*Phoradendron villosum* Nutt., mistletoe. Oreg., Calif.
*Pucciniastrum sparsum* (Wint.) Ed. Fischer, rust. Pacific coast.

**ARISTOLOCHIA.**

*A. serpentaria*, Virginia snakeroot.

*Cercospora serpentaria* Ell. and Ev., leaf-spot. Del., Ala.

**ARONIA.**

*Aronia* spp., chokeberry.

*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. W. Va.
*Cercospora mali* Ell. and Ev., leaf-spot. Ala.
*C. piri* Farl., leaf-spot. N. H., Wis.
*Gymnosporangium clavariaeforme* (Jacq.) DC., rust. Mass.
*G. davisii* Kern, rust. Me., Mich., Wis.
*G. germinale* (Schw.) Kern, rust. Me., Mass.
*G. transformans* (Ell.) Kern, rust. Mass., Pa., N. J.
*Phyllosticta arbutifolia* Ell. and Mart., leaf-spot. N. J.

**ARUNDINARIA.**

*Arundinaria* sp., bamboo, cane.

*Puccinia arundinariae* Schw., rust. Tex.

*A. macrosperma*, southern cane.

*Puccinia arundinariae* Schw., rust. S. C.

*A. tecta*, small cane.

*Puccinia arundinariae* Schw., rust. S. C., Miss., La.

**ASCLEPIAS.**

*A. tuberosa*, butterflyweed, *pleurisy root.

*Cercospora asclepiadorae* Ell. and Kell., leaf-spot. Ala.
*Phyllosticta tuberosa* Ell. and Mart., leaf-spot. N. J.
*Puccinia jamesiana* (Pk.) Arth., rust. Okla., Iowa, Kans.
*Uromyces howei* Pk., rust. Del., Fla., Ill., Iowa, Kans.

**ASIMINA.**

*A. triloba*, papaw.

*Cercospora asiminae* Ell. and Kell., leaf-spot. Ala., Miss., Kans.
*Phleospora asiminae* Ell. and Morgan, leaf-blotch. Ohio, Ill., Mo., Kans.
*Phyllosticta asiminae* Ell. and Kell., leaf-spot. General.

**ASPARAGUS.**

*A. officinalis*, asparagus.

*Armillaria mellea* (Vahl) Quel., root-rot. Oreg.
*Botrytis* sp., blight. N. Y., Calif.
*Cercospora asparagi* Sacc., leaf-spot. Del., Va., Ala., Tex., Nebr., Calif.
*C. caulicola* Wint., leaf-spot. Md., S. C., Ga., Ala., Mo.
*Cladosporium fasciculare* (Pers.) Fr. S. C.
*Colletotrichum* sp., anthracnose. Conn., Ill.
*Corticium vagum* Berk. and Curt., root-rot. Mass., N. Y., Pa., N. J., Mich., N. Dak., Wash.
*Fusarium* sp., dwarfing, stem-rot. Mass., Conn., N. Y., N. J., Ill., Minn. Calif.
*Puccinia asparagi* DC., rust. General.
Dwarfing, undet. N. J.
Fasciation, undet. Conn., Calif.
Leopard spot, undet. Md., Nebr.

**AVENA.**

*A. sativa*, oats.

*Bacterium coronafaciens* Charlotte Elliott (*Phytomonas coronafaciens* (Elliott) Com. S. A. B.), halo leaf-blight. General.
*Claviceps purpurea* (Fr.) Tul., ergot. Iowa, Minn., N. Dak., Kans., Colo., Wash.
*Colletotrichum graminicolum* (Ces.) Wils., anthracnose. General east of Great Plains.
*Erysiphe graminis* DC., powdery mildew. Scattered, especially in Pacific States.
*Fusarium culmorum leteius* Sherb., seedling blight. Oreg.
*Gibberella saubinetii* (Mont.) Sacc., scab. Scatteringly east of Great Plains.
*Helminthosporium avenae* Eidam, leaf-spot. Widely distributed.
*Leptosphaeria avenaria* G. F. Weber, speckled blotch. Ky., Minn., Wis.
*Phyllachora graminis* (Pers.) Fckl., black-spot. Nebr.
*Puccinia coronata* Cda., crown-rust. General.
*P. graminis* Pers., stem-rust. General.
*Scolecotrichum graminis* Fckl., leaf-spot. N. Y., Ill.
*Ustilago avenae* (Pers.) Jens., loose smut. General.
*U. levis* (Kell. and Sw.) Magn., covered smut. General.
Blast, undet. General.

**AZALEA.**

*Azalea* spp., azalea.

*Corticium vagum* Berk. and Curt., stem-rot. Ga.
*Exobasidium vaccinii* (Fckl.) Wor., gall. Atlantic Coast and Gulf States, Ill.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Conn., N. Y., Pa.
*Pucciniastrum myrtilli* (Schum.) Arth., rust. Conn., Ga., Atlantic Coast States.
*Ramularia angustata* Pk., leaf-spot. N. Y.
*Septoria solitaris* Ell. and Ev., leaf-spot. Calif.
*Synchytrium vaccinii* F. Thomas, red-gall. N. J.

**BAMBUSA.**

*Bambusa* sp., bamboo.

*Cladosporium graminum* (Pers.) Cda. S. C.
*Coniosporium shiraianum* (Syd.) Bub. Fla.
*Helminthosporium* sp., leaf-spot. Fla.
*Puccinia melanocephala* Syd., rust. Fla.

**BEGONIA.**

*Begonia* sp., begonia.

*Aphelenchus olesistus* Ritzema Bos, nematode (nursery). N. Y., Pa.
*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Miss.
*Botrytis* sp., blight. Ind., Ill.
*Cercospora* sp., leaf-spot. Fla., Tex.
*Gloeosporium* sp., anthracnose. Fla., La.

**BEGONIA**—Continued.

*Begonia* sp., begonia—Continued.

*Heterodera radicicola* (Greef) Muell., root-knot. Ohio, Ind., Nebr., Calif. (greenhouse).

*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. Mass., Ohio.

**BENZOIN.**

*B. aestivale*, spicebush.

*Hymenochaete agglutinans* Ell. Appalachian Mts.

*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Eastern States.

*Phyllosticta linderae* Ell. and Ev., leaf-spot. Del., W. Va.

*P. lindericola* Ell. and Ev., leaf-spot. W. Va.

**BERBERIS.**

*B. canadensis*, Allegheny barberry.

*Puccinia graminis* Pers., rust. Va., W. Va.

*B. thunbergii*, Japanese barberry.

*Verticillium alboatrum* Reinke and Berth., wilt. N. Y.

Bacterial leaf-spot, undet. N. Y., Minn.

*B. vulgaris*, common barberry.

*Puccinia graminis* Pers., rust. General wherever host occurs.

Bacterial leaf-spot, undet. N. Y., Wis., Iowa, Nebr., Wash.

**BETA.**

*B. vulgaris*, beet.

*Actinomyces scabies* (Thax.) Gues., scab. Frequent where beets are grown.

*Bacterium teutlium* H. A. Metcalf, soft-rot. Nebr.

*B. tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Conn., Pa., Wis., Idaho.

*Cercospora beticola* Sacc., leaf-spot. General.

*Corticium vagum* Berk. and Curt., root-rot. Occurs scatteringly, especially throughout the Northern States.

*Fusarium culmorum leteius* Sherb., seedling blight. Pacific coast.

*Heterodera radicicola* (Greef) Muell., root-knot. Southern States, Ark., Ind., Kans., Colo., Calif.

*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.

*Peronospora schachtii* Fckl., downy mildew. N. Y., Calif.

*Phoma betae* (Oud.) Frank, root-rot and leaf-spot. N. J., N. C., Mich., Wis., N. Dak., S. Dak., Kans., Colo., N. Mex., Wash., Oreg.

*Puccinia sarcobati* (Pk.) Bethel, rust. Utah.

*Pythium aphanidermatum* (Edson) Fitz., damping-off. Wis.

*P. debaryanum* Hesse, damping-off. Conn.

*Sclerotinia sclerotiorum* (Lib.) Mass., watery soft-rot. Conn., Ill.

*Sclerotium rolfsii* Sacc., stem-rot. S. C., Ga., La.

*Septoria betae* West., leaf-spot. Mass., Del., Ind.

*Tylenchus dipsaci* (Kuehn) Bast., stem nematode. Kans.

*Uromyces betae* (Pers.) Lév., rust. Colo., Oreg., Calif.

Curly-top, undet. Tex., Colo., Utah, Calif.

*B. vulgaris*, sugar beet.

*Actinomyces scabies* (Thax.) Gues., scab. Conn., Ohio, Idaho.

*Bacterium aptatum* N. Brown and C. Jamieson (*Phytomonas aptatum* (Brown and Jamieson) Com. S. A. B.), leaf-spot. Utah.

*B. beticolum* EFS., N. Brown, and Town. (*Phytomonas beticolum* (EFS., Brown, and Town.) Com. S. A. B.), tuberculosis. Va., Kans., Colo., Utah.

*B. tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Ohio, Utah, Colo., Idaho, Calif.

*Cercospora beticola* Sacc., leaf-spot. General.

*Corticium vagum* Berk. and Curt., root-rot. General.

*Fusarium* sp., root-rot. Ind., Mich., Kans., Western States.

*Heterodera radicicola* (Greef) Muell., root-knot. Ohio, Texas, Western States.

*H. schachtii* A. Schmidt, sugar-beet nematode. Wyo., Colo., Utah, Idaho, Calif.

*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.

**BETA**—Continued.

*B. vulgaris*, sugar beet—Continued.

*Peronospora schachtii* Fckl., downy mildew. Calif.
*Phoma betae* (Oud.) Frank, root-rot and leaf-spot. General.
*Puccinia sarcobati* (Pk.) Bethel, rust. Colo., Utah.
*Pythium* sp., damping-off. Ohio, Wis., Utah, Idaho, Calif.
*P. aphanidermatum* (Edson) Fitz., damping-off. Wis., Utah.
*Sclerotium rolfsii* Sacc., stem-rot. Ga., Tex., Calif.
*Tylenchus dipsaci* (Kuehn) Bast., stem nematode. Kans.
*T. penetrans* Cobb, nematode. Utah.
*Uromyces betae* (Pers.) Lév., rust. Calif.
Curly-top, undet. Western States.
Mosaic, undet. Ind., Kans., Nebr., Colo., Utah, Calif.

*B. vulgaris cicla*, Swiss chard.

*Actinomyces scabies* (Thax.) Gues., scab. Pa., Wis.
*Cercospora beticola* Sacc., leaf-spot. General.
*Corticium vagum* Berk. and Curt., root-rot. N. Y.
*Heterodera radicicola* (Greef) Muell., root-knot. Va., La.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Sclerotium rolfsii* Sacc., stem-rot. S. C., La.
*Uromyces betae* (Pers.) Lév., rust. Calif.

*B. vulgaris macrorhiza*, mangel-wurzel.

*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Pa.
*Cercospora beticola* Sacc., leaf-spot. Conn., Minn., Iowa.
*Corticium vagum* Berk. and Curt., root-rot. Wash.
*Phoma betae* (Oud.) Frank, root-rot and leaf-spot. N. Y., Wis., Minn.
*Pythium debaryanum* Hesse, damping-off. Conn., Mich., Wis., Kans., Colo., Utah.
*Sclerotium rolfsii* Sacc., stem-rot. La.

**BETULA.**

*B. alba*, white birch.

*Magnusiella flava* (Farl.) Sadeb., yellow leaf blister. Northeastern States.
*Melanconium bicolor* Nees, canker. N. Y., Ind.
*Polyporus betulinus* (Bull.) Fr., powdery sapwood rot. Vt., N. Y.

*B. lenta*, sweet birch.

*Fomes igniarius* (L.) Fr., white heart-rot.
*Gloeosporium betularum* Ell. and Mart., leaf-spot. Pa., N. J., Ill.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. N. H.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. N. Y.
*Phyllosticta betulae* Ell. and Ev., leaf-spot. N. Y.
*Septoria microsperma* Pk., leaf-spot. Pa., W. Va.

*B. lutea*, yellow birch.

*Fomes applanatus* (Pers.) Wallr. (*Ganoderma applanatum* (Pers.) Pat.), white-streaked rot. Me., N. Y.
*F. fomentarius* (L.) Fr., white sapwood rot. New England, N. Y., Pa.
*F. igniarius* (L.) Fr., white heart-rot. Vt., N. Y.
*Melampsoridium betulae* (Schum.) Arth., rust. N. H., Ind.
*Melanconium bicolor* Nees, canker. N. Y.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Mass.
*Nectria coccinea* (Pers.) Fr., associated with canker. Mich.
*Polyporus betulinus* (Bull.) Fr., powdery sapwood rot. N. Y.

*B. nigra*, river birch.

*Fomes igniarius* (L.) Fr., white heart-rot. Conn.
*Gloeosporium betularum* Ell. and Mart., leaf-spot. Mass., Pa., Ind., Ill., Wis.
*Nectria ditissima* Tul., European canker. Pa.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Ind.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Ill., Mo.

*B. occidentalis*, western birch.

*Fomes fomentarius* (L.) Fr., white sapwood rot.
*F. igniarius* (L.) Fr., white heart-rot. Mont.

**BETULA**—Continued.

*B. occidentalis*, western birch—Continued.

*Gnomonia campylostyla* Auer. Colo.
*Melampsoridium betulae* (Schum.) Arth., rust. Mont., Idaho.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Mont., Wyo.
*Septoria betulicola* Pk., leaf-spot. Wash.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Idaho.

*B. papyrifera*, canoe birch.

*Exoascus betulinus* (Rostr.) Sadeb., witches'-broom. Wis.
*Fomes applanatus* (Pers.) Wallr. (*Ganoderma applanatum* (Pers.) Pat.), white-streaked rot. Me., Minn.
*F. everhartii* (Ell. and Gall.) Schrenk, white-rot. Minn.
*F. fomentarius* (L.) Fr., white sapwood rot. Mass., Minn.
*F. igniarius* (L.) Fr., white heart-rot. Mich., Minn.
*Gloeosporium betulae-papyriferae* Dearn. and Overh., anthracnose. Pa.
*Magnusiella flava* (Farl.) Sadeb., yellow leaf blister. Northeastern States.
*Melampsoridium betulae* (Schum.) Arth., rust. Me.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Iowa.
*Polyporus betulinus* (Bull.) Fr., powdery sapwood rot. Mass., Conn., Minn.

*B. populifolia*, gray birch.

*Fomes fomentarius* (L.) Fr., white sapwood rot. Me.
*Magnusiella flava* (Farl.) Sadeb., yellow leaf blister. Northeastern States.
*Melampsoridium betulae* (Schum.) Arth., leaf-rust. Northeastern States.
*Melanconium bicolor* Nees, canker. N. Y.
*Polyporus betulinus* (Bull.) Fr., powdery sapwood rot. Northeastern States.
*Septoria betulina* Pk., leaf-spot. Wis.
*Venturia ditricha* (Fr.) Aderh. Me., N. Y.

**BIGNONIA.**

*B. capreolata*, crossvine.

*Cercospora capreolata* Ell. and Ev., leaf-spot. Miss.
*Dimerosporium tropicale* Speg., sooty mold. Miss.

*B. radicans*, trumpetcreeper.

*Cercospora pallida* Ell. and Ev., leaf-spot. La.
*C. sordida* Sacc., leaf-blight. General east of Great Plains, especially in the South.
*Erysiphe cichoracearum* DC., powdery mildew. Ill.
*Hendersonia peckii* Clint. N. Y.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Va., Ala., Ohio, Ind., Miss.
*Phyllosticta tecomae* Sacc., leaf-spot. Miss.
*Septoria tecomae* Ell. and Ev., leaf-spot. W. Va., Tex.

**BRASSICA.**

*B. campestris*, rutabaga.

*Albugo candida* (Pers.) O. Kuntze, white-rust. Mass.
*Alternaria brassicae* (Berk.) Sacc., black leaf-spot. Va.
*Bacterium campestre* (Pam.) EFS. (*Phytomonas campestre* (Pam.) Com. S. A. B.), black-rot. Va., Wis., Minn., Iowa.
*Erysiphe polygoni* DC., powdery mildew. Conn., Fla., Wash.
*Heterodera radicicola* (Greef) Muell., root-knot. Ala.
*Mycosphaerella brassicicola* (Fr.) Lindau, ring-spot. Calif.
*Peronospora parasitica* (Pers.) D By., downy mildew. Fla., Iowa.
*Phoma lingam* (Tode) Desm., black-leg. Ga.
*Plasmodiophora brassicae* Wor., clubroot. Minn., N. Dak.

*B. oleracea*, cabbage.

*Albugo candida* (Pers.) O. Kuntze, white-rust. Ky., Idaho.
*Alternaria brassicae* (Berk.) Sacc., black leaf-spot. General.
*A. herculea* (Ell. and Mart.) J. A. Elliott, gray leaf-spot. Calif.
*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. General.

**BRASSICA**—Continued.

*B. oleracea*, cabbage—Continued.

*Bacterium campestre* (Pam.) EFS. (*Phytomonas campestre* (Pam.) Com. S. A. B.), black-rot. General.
*B. maculicolum* McC. (*Phytomonas maculicola* (McC.) Com. S. A. B.), peppery leaf-spot. Conn., N. Y., Ala., Miss., La.
*Botrytis* sp., gray-mold. N. Y., Calif., Alaska.
*Cercospora bloxami* Berk. and Br., leaf-spot. Fla., Tex., Ill.
*C. cruciferarum* Ell. and Ev., leaf-spot. Ala.
*Corticium vagum* Berk. and Curt., wire-stem. General.
*Erysiphe polygoni* DC., powdery mildew. Md., Nebr., Tex., Oreg.
*Fusarium conglutinans* Woll., yellows. General except New England.
*Heterodera radicicola* (Greef) Muell., root-knot. Southern States and Calif.
*Mycosphaerella brassicicola* (Fr.) Lindau, ring-spot. Oreg., Wash., Calif.
*Olpidium brassicae* (Wor.) Dan., seedling blight. N. Y., Miss., Wis.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Peronospora parasitica* (Pers.) D By., downy mildew. General.
*Phoma lingam* (Tode) Desm., black-leg. General, especially in Eastern States.
*Plasmodiophora brassicae* Wor., clubroot. General.
*Pythium debaryanum* Hesse, damping-off. Conn., Pa.
*Sclerotinia sclerotiorum* (Lib.) Mass., drop, watery soft-rot. General.
*Sclerotium rolfsii* Sacc., stem-rot. Ala., Tex.
Malnutrition, nonpar. Southern States, Long Island, Mass.
Oedema, nonpar. N. Y.
Speck, undet. Frequent in stored cabbage.
Tipburn, nonpar. Ind.

*B. oleracea acephala*, kale, collards.

*Albugo candida* (Pers.) O. Kuntze, white-rust. Fla.
*Alternaria brassicae* (Berk.) Sacc., black leaf-spot. Southern States.
*Bacterium campestre* (Pam.) EFS. (*Phytomonas campestre* (Pam.) Com. S. A. B.), black-rot. N. C., Ala.
*Corticium vagum* Berk. and Curt., stem-rot. Wash.
*Fusarium conglutinans* Woll., yellows. N. Y., N. C., S. C., Ind., Calif.
*Heterodera radicicola* (Greef) Muell., root-knot. N. Y., S. C., Ala.
*Mycosphaerella brassicicola* (Fr.) Lindau, ring-spot. Wash., Calif.
*Peronospora parasitica* (Pers.) D By., downy mildew. South Atlantic States; Oreg.
*Phoma lingam* (Tode) Desm., black-leg. N. C., Ga.
*Plasmodiophora brassicae* Wor., clubroot. Conn., Va., N. C., Wash.
*Sclerotium rolfsii* Sacc., stem-rot. Miss.

*B. oleracea botrytis*, cauliflower.

*Alternaria brassicae* (Berk.) Sacc., black leaf-spot. N. Y., Fla., La., Calif.
*A. herculea* (Ell. and Mart.) J. A. Elliott, gray leaf-spot. Calif.
*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. Me., Mass., Va., Minn., Mo.
*Bacterium campestre* (Pam.) EFS. (*Phytomonas campestre* (Pam.) Com. S. A. B.), black-rot. General, especially in States east of Miss. River.
*B. maculicolum* McC. (*Phytomonas maculicola* (McC.) Com. S. A. B.), peppery leaf-spot. Conn., N. Y., Va., Ky., Fla.
*Corticium vagum* Berk. and Curt., stem-rot. La., Wash.
*Fusarium conglutinans* Woll., yellows. Del., Ind., Calif.
*Mycosphaerella brassicicola* (Fr.) Lindau, ring-spot. Mass., Oreg., Calif.
*Peronospora parasitica* (Pers.) D By., downy mildew. N. Y., Va., Mo., Calif.
*Phoma lingam* (Tode) Desm., black-leg. N. Y.
*Plasmodiophora brassicae* Wor., clubroot. East of Miss. River and north of Va. and Ky.
*Pythium* sp., damping-off. Ohio, Oreg.
*Sclerotinia sclerotiorum* (Lib.) Mass., drop, watery soft-rot. Va., Miss., La., Calif.

**BRASSICA**—Continued.

*B. oleracea caulorapa*, kohlrabi.

*Heterodera radicicola* (Greef) Muell., root-knot. Ohio.
*Peronospora parasitica* (Pers.) D By., downy mildew. Va., Fla.
*Plasmodiophora brassicae* Wor., clubroot. Conn., Mass., N. Y., Ohio, Miss.

*B. oleracea gemmifera*, Brussels sprouts.

*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. Minn.
*Corticium vagum* Berk. and Curt., stem-rot. La.
*Mycosphaerella brassicicola* (Fr.) Lindau, ring-spot. Calif.
*Phoma lingam* (Tode) Desm., black-leg. N. Y.
*Plasmodiophora brassicae* Wor., clubroot. Alaska.
*Pythium debaryanum* Hesse, damping-off. Minn.
*Sclerotinia sclerotiorum* (Lib.) Mass., drop, watery soft-rot. La.

*B. pekinensis*, petsai cabbage, Chinese cabbage.

*Alternaria brassicae* (Berk.) Sacc., black leaf-spot. Conn., Fla.
*A. herculea* (Ell. and Mart.) J. A. Elliott, gray leaf-spot. Fla., Calif.
*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. Conn.
*Bacterium campestre* (Pam.) EFS. (*Phytomonas campestre* (Pam.) Com. S. A. B.), black-rot. Md.
*Cercospora bloxami* Berk. and Br., leaf-spot. Fla.
*Cercosporella albo-maculans* (Ell. and Ev.) Sacc., leaf-spot. Conn.
*Cylindrosporium brassicae* Fautr. and Roum., leaf-spot. Md., Mo.
*Sclerotinia sclerotiorum* (Lib.) Mass., drop. Mass.
Mosaic, undet.

*B. rapa*, turnip (white).

*Albugo candida* (Pers.) O. Kuntze, white-rust. Reported in seven scattered States.
*Alternaria* sp., black leaf-spot. Ind., Tex., Utah.
*A. herculea* (Ell. and Mart.) J. A. Elliott, gray leaf-spot. N. J., Ohio, Fla., Ala.
*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. Reported from widely scattered States.
*Bacterium campestre* (Pam.) EFS. (*Phytomonas campestre* (Pam.) Com. S. A. B.), black-rot. Eastern States.
*Cercosporella albo-maculans* (Ell. and Ev.) Sacc., leaf-spot. General.
*Colletotrichum brassicae* Schultz. and Sacc., leaf-spot. Ga.
*C. higginsianum* Sacc., leaf-spot. S. C., Ga., Fla., Ala., Miss.
*Corticium vagum* Berk. and Curt., stem-rot. Mass., Ohio, Wash.
*Cylindrosporium brassicae* Fautr. and Roum., leaf-spot. Ga.
*Erysiphe polygoni* DC., powdery mildew. Occurs in widely scattered States.
*Fusarium conglutinans* Woll., yellows. Ind.
*Heterodera radicicola* (Greef) Muell., root-knot. S. C., Ga., Ala., Tex.
*Peronospora parasitica* (Pers.) D By., downy mildew. Frequent east of Great Plains.
*Phoma napobrassicae* Rostr., root-rot. Conn.
*Plasmodiophora brassicae* Wor., clubroot. East of Great Plains; Colo., Wash.; especially in Northeastern States.
*Sclerotinia sclerotiorum* (Lib.) Mass., drop, watery soft-rot. Conn., Tex.
Mosaic, undet. Ind.

**BROMUS**

*B. inermis*, *Hungarian bromegrass.

*Bacterium coronafaciens atropurpureum* C. S. Reddy and James Godkin, bacterial blight. Wis., N. Dak., S. Dak.
*Claviceps purpurea* (Fr.) Tul., ergot. Conn., Minn., Iowa, N. Dak., Nebr.
*Erysiphe graminis* DC., powdery mildew. Minn.
*Helminthosporium giganteum* Heald and Wolf, leaf-spot. D. C.
*Phyllachora graminis* (Pers.) Fckl., tar-spot. N. Dak.
*Pyrenophora bromi* (Died.) Drechs., leaf-blotch. Pa., Wis., Minn., N. Dak.
*Rhynchosporium secalis* (Oud.) Davis, scald. Wis.
*Septoria bromi* Sacc., leaf-blotch. Wis.
*S. bromigena* Sacc., leaf-spot. N. Dak.
*Ustilago bromivora* (Tul.) Fisch., smut. Iowa, Oreg.

**BROMUS**—Continued.

**B. secalinus*, chess.

*Colletotrichum graminicolum* (Ces.) Wils., anthracnose. Pa., Ohio.
*Ophiobolus graminis* Sacc., take-all. N. Y.
*Puccinia clematidis* (DC.) Lagh., leaf-rust. N. C., Ind., Oreg., Calif.
*P. graminis* Pers., stem-rust. W. Va., Ind., Wis., Iowa, Kans.
*Septoria bromi* Sacc., leaf-blotch. Wis.
*Ustilago bromivora* (Tul.) Fisch., smut. Pacific coast.

**BUDDLEIA.**

*Buddleia* sp., butterflybush.

*Heterodera radicicola* (Greef) Muell., root-knot. Miss.

***BULBILIS.**

*B. dactyloides*, buffalo grass.

*Cercospora seminalis* Ell. and Ev., leaf-spot. S. Dak., Kans., Colo.
*Helminthosporium turcicum* Pass., leaf-blight. Kans.
*Puccinia kansensis* Ell. and Barth., rust. Nebr., Kans.
*Tilletia buchloeana* Kell. and Syd., covered smut. Tex., Kans.
*Ustilago buchloes* Ell. and Tr., loose smut. Nebr., N. Mex.

**BUMELIA.**

*Bumelia* sp., bumelia.

*Cercospora lanuginosa* Heald and Wolf, leaf-spot. Texas.
*Phyllosticta bumeliifolia* Heald and Wolf, leaf-spot. Ala., Miss., Tex.
*P. curtisii* (Sacc.) Ell. and Ev., leaf-spot. Fla.
*Septoria bumeliae* Sacc., leaf-spot. Miss.

**BUXUS.**

*B. sempervirens*, box.

*Macrophoma candollei* (Berk. and Br.) Berl. and Vogl., leaf-blight. East of Miss. River.
*Nectria rousselliana* Tul., canker. N. J., Pa., Md.
*Phyllosticta* sp., leaf-spot. N. Y.
*P. auerswaldii* Allesch., leaf-spot. N. J.

**CAJANUS.**

*C. indicus*, pigeon-pea.

*Uromyces dolicholi* Arth., rust. Fla.

**CALENDULA.**

*C. officinalis*, calendula.

*Corticium vagum* Berk. and Curt., stem-rot. Ind.
*Heterodera radicicola* (Greef) Muell., root-knot. W. Va.
*Puccinia emiliae* P. Henn., rust. Ill., Mo., Nebr., Kans.

**CALLICARPA.**

*C. americana*, American beautyberry.

*Cercospora callicarpae* Cke., leaf-spot. Gulf States.
*Meliola cookeana* Speg., sooty mold. Fla.

**CALLISTEPHUS.**

*C. chinensis*, China-aster.

*Botrytis* sp., stem-blight. Conn., Pa.
*Coleosporium solidaginis* (Schw.) Thuem., rust. Frequent east of Great Plains.
*Corticium vagum* Berk. and Curt., stem-rot. Me., Mass., N. Y., Mich., Wash.
*Erysiphe cichoracearum* DC., powdery mildew. Minn., Wash.
*Fusarium conglutinans callistephi* Beach, wilt. General in Northern States.
*Heterodera radicicola* (Greef) Muell., root-knot. Conn., W. Va.
*Septoria callistephi* W. O. Glover, leaf-spot. N. Y., Del., Ala., Ohio, Mich.
Yellows, undet. General in Northern States.

**CANNA.**

*C. indica*, canna.

*Bacterium cannae* M. K. Bryan (*Phytomonas cannae* (Bryan) Com. S. A. B.), bacterial bud-rot. Conn., Ind.
*Fusarium* sp., rot. Pa., Minn.
*Puccinia cannae* (Wint.) P. Henn., rust. Ohio, Fla.

**CANNABIS.**

*C. sativa*, common hemp.

*Botryosphaeria marconi* (Cav.) V. K. Charles and A. Jenkins, wilt. Va.
*Botrytis cinerea* Auct., rot. Va., Oreg.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Sclerotium rolfsii* Sacc., stem-rot. S. C.
*Septoria cannabina* Pk., leaf-spot. Iowa.
*S. cannabis* (Lasch) Sacc., leaf-spot. Ind., Ky., Minn.

**CAPRIOLA.**

*C. dactylon*, Bermuda grass.

*Helminthosporium cynodontis* G. B. Marignoni, leaf-spot. Fla.
*H. giganteum* Heald and Wolf, leaf-spot. Fla., Tex.
*Puccinia cynodontis* DeLac., rust. Frequent in Southern States.
*Ustilago cynodontis* P. Henn., smut. Tex., Calif.

**CAPSICUM.**

*C. annuum*, redpepper.

*Alternaria* sp., fruit-rot. Frequent, especially in the South.
*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. Fla., Mich.
*Bacterium solanacearum* EFS. (*Phytomonas solanaceara* (EFS.) Com. S. A. B.), bacterial wilt. Pa., Va., N. C., La., Tex.
*B. vesicatorium* E. M. Doidge (*Phytomonas exitiosa* (Gardner and Kendrick) Com. S. A. B.), bacterial spot. Tenn., Ga., Fla., Ind.
*Cercospora capsici* Heald and Wolf, leaf and fruit spot. Ga., Fla., Tex., Calif.
*Corticium vagum* Berk. and Curt., stem-rot. Conn., N. J., Pa., Ga., La.
*Fusarium* sp., wilt. Del., Tenn., Ark., Calif.
*F. annuum* L. H. Leonian, wilt. N. Mex.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose. General east of Miss. River, especially in the South; Tex.
*Heterodera radicicola* (Greef) Muell., root-knot. Fla., N. Mex.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phoma destructiva* Plow., rot. Ga.
*Phyllosticta* sp., leaf-spot. N. J.
*Phytophthora capsici* L. H. Leonian, blight. N. Mex.
*P. terrestris* Sherb., fruit-rot. Ind.
*Pythium debaryanum* Hesse, fruit-rot. N. C.
*Sclerotinia sclerotiorum* (Lib.) Mass., damping-off. Conn.
*Sclerotium bataticola* Taub., fruit-rot. N. J.
*S. rolfsii* Sacc., stem-rot. South Atlantic and Gulf States.
Blossom-end rot, nonpar. Ga.
Mosaic, undet. Frequent in widely scattered States.
Sun scald, undet. N. J., Ind., Calif.

**CARICA.**

*C. papaya*, papaya.

*Colletotrichum* sp., fruit-rot. Fla.
*Heterodera radicicola* (Greef) Muell., root-knot.
*Oidium caricae* F. Noack, powdery mildew. Fla.

**CARPINUS.**

*Carpinus* sp., hornbeam.

*Fomes igniarius* (L.) Fr., white heart-rot. Vt.
*Fracchiaea calista* (Berk. and Curt.) Sacc. Vt., Ala., Tex.
*Gnomoniella fimbriata* (Pers.) Sacc., leaf-spot. N. Y., W. Va.

**CARPINUS**—Continued.

*C. caroliniana,* American hornbeam, blue beech.

*Dermatea carpinea* (Pers.) Rehm, canker. N. Y., Pa.
*Fusarium carpineum* Davis. Wis.
*Gloeosporium robergei* Desm., leaf-spot. Pa.
*Gnomoniella fimbriata* (Pers.) Sacc., leaf-spot. N. Y.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Ind., Iowa.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Ohio, Ind., Tex.
*Phyllosticta hesperidearum* (Catt.) Penz., leaf-spot. Colo. (greenhouse).
*Septoria carpinea* Davis, leaf-spot. Wis.

**CASTANEA.**

*C. dentata,* chestnut.

*Endothia parasitica* (Murr.) P. J. and H. W. Anderson, blight. New England, N. Y., Atlantic Coast States except Florida; also W. Va., Ky., Tenn., Ala., Ohio, Ind., Mich., Iowa, Mo., Nebr.
*Fusicoccum* sp., canker. Calif. (*Castanea* sp.).
*Marssonia ochroleuca* (Berk. and Curt.) Humph., leaf-spot. Me. to N. C., Ohio.
*Melanconis modonia* Tul., black canker. Ohio.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Conn., N. Y., Pa.
*Monochaetia desmazierii* Sacc., large leaf-spot. Va., N. C., Ga.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Eastern States.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Mass., N. Y., Ind.
*Phyllosticta castanea* Ell. and Ev., leaf-spot. Md., W. Va.
*P. fusispora* Ell. and Ev., leaf-spot. Ala.
*Physalospora malorum* (Pk.) Shear (*P. cydoniae* Am. Auct.), twig-blight. Central Eastern States.
*Polyporus croceus* Fr., white-piped rot. Eastern States.
*P. frondosus* Fr., straw-colored rot.
*P. spraguei* Berk., heart-rot. Ind.
*P. sulphureus* (Bull.) Fr., brown-checked wood-rot. N. Y.
*Septoria ochroleuca* Berk. and Curt., leaf-spot. Mass., Kans.
*Strumella coryneoidea* Sacc. and Wint., canker. Northeastern States.

*C. japonica,* Japanese chestnut.

*Endothia parasitica* (Murr.) P. J. and H. W. Anderson, blight. Middle Atlantic States, Mass., Conn., N. Y., W. Va., N. C.
*Septoria gilletiana* Sacc., leaf-spot. La.

*C. pumila,* chinquapin.

*Endothia parasitica* (Murr.) P. J. and H. W. Anderson, blight. N. H., Conn., Pa., Md., Va., W. Va., Tenn., S. C., Ga.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Va., N. C.
*Polyporus croceus* Fr., white-piped rot. Ark.

*C. sativa,* Spanish chestnut.

*Endothia parasitica* (Murr.) P. J. and H. W. Anderson, blight. Middle Atlantic States, Conn., N. Y., Ohio.
*Marssonia ochroleuca* (Berk. and Curt.) Humph., leaf-spot. Conn., N. J.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Mass.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Ohio.

**CASTANOPSIS.**

*C. chrysophylla,* giant chinquapin.

*Dothidella castanopsidis* Dearn., leaf-spot. Oreg.

**CATALPA.**

*Catalpa* sp., catalpa.

*Cercospora catalpae* Wint., leaf-spot. Mass., N. J., Fla., Ala., La., Mo., Tex.
*Cladosporium* sp., leaf-spot. Ind.
*Collybia velutipes* Fr., heart-rot. Ind.
*Gloeosporium catalpae* Ell. and Ev., leaf-spot. N. Y., Pa.
*Heterodera radicicola* (Greef) Muell., root-knot. Ala., Fla.
*Macrosporium catalpae* Ell. and Mart., leaf-spot. Frequent east of Miss. River; Mo.

**CATALPA**—Continued.

*Catalpa* sp., catalpa—Continued.

*Microsphaera alni vaccinii* (Schw.) Salm., powdery mildew. General east of Great Plains.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. S. C., Ohio, Ind., Ill.
*Phyllosticta catalpae* Ell. and Mart., leaf-spot. General east of Great Plains.
*Polyporus catalpae* Schrenk, brown butt-rot. Mass.
*Polystictus versicolor* (L.) Fr., yellowish wood-rot. Mass., Ohio, Ind., Nebr.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. Ohio.
Mosaic, undet. Md.

**CELASTRUS.**

*C. scandens*, American bittersweet.

*Cercospora melanochaeta* Ell. and Ev., leaf-spot. N. Dak., Nebr., Kans.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Wis.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. General.
*Phyllosticta celastri* Ell. and Ev., leaf-spot. W. Va.
*Ramularia celastri* Ell. and Mart., leaf-spot. General.

**CELTIS.**

*Celtis* sp., hackberry, sugarberry.

*Cylindrosporium celtidis* Earle, leaf-spot. Ala.
*C. defoliatum* Heald and Wolf, leaf-blight. Tex.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phleospora celtidis* Ell. and Mart., leaf-spot. Mass., Mo., Kans.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Tex., Ind., Ariz.
*Phyllosticta celtidis* Ell. and Kell., leaf-spot. East of Great Plains; N. Mex.
*Pseudoperonospora celtidis* (M. B. Waite) Wils., downy mildew. D. C.
*Ramularia celtidis* Ell. and Kell., leaf-spot. Frequent east of Great Plains.
*Septogloeum celtidis* Dearn., leaf-spot. N. Y.
*Septoria celti-gallae* W. R. Gerard, leaf-spot. N. Y.
*S. gigaspora* Ell. and Ev., leaf-spot. Mass., Kans.
*Sphaerotheca phytoptophila* Kell. and Sw., powdery mildew. East of Great Plains.
*Uncinula confusa* Mass., powdery mildew. N. C.
*U. parvula* Cke. and Pk., powdery mildew. General.
*U. polychaeta* (Berk. and Curt.) Ell., powdery mildew. Mass., Ala., Miss., Tex.

**CEPHALANTHUS.**

*C. occidentalis*, buttonbush.

*Ascochyta cephalanthi* Ell. and Ev., leaf-spot. La.
*Cercospora perniciosa* Heald and Wolf, leaf-blight. Tex.
*Coniothyrium cephalanthi* Ell. and Ev., leaf-spot. La.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. N. H., Ala., Ind., Ill.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Ind.
*Phyllosticta cephalanthi* Tharp, leaf-spot. Tex.
*Puccinia cephalanthi* (Seym.) Barth., rust. N. Y., Ind., Ill., Kans.
*Ramularia cephalanthi* (Ell. and Kell.) Heald, leaf-spot. Southern States.
*Septoria cephalanthi* Ell. and Kell., leaf-spot. Kans.

**CERCIS.**

*C. canadensis*, redbud, *Judas-tree.

*Cercospora cercidicola* Ell., leaf-spot. General throughout range of host.
*C. chionea* Ell. and Kell., leaf-spot. Ind., Ill., Kans.
*Pestalozzia* sp., leaf-spot. Fla.
*Phyllosticta cercidicola* Ell. and Ev., leaf-spot. W. Va., Ind.
*P. siliquastri* Sacc. and Speg., leaf-spot. Ala.

**C. occidentalis*, California redbud.

*Cercospora cercidicola* Ell., leaf-spot. Tex.

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**CHAETOCHLOA.**

*C. italica*, millet.

*Helminthosporium* sp., leaf-spot. Minn.
*Piricularia grisea* (Cke.) Sacc., leaf-spot. Pa., Va., Ala., Tex., Ind., Ill., Iowa, Mo.
*Sclerospora graminicola* (Sacc.) Schroet., downy mildew. North-Central States.
*Ustilago crameri* Koern., smut. General east of Great Plains.

**CHAMAECYPARIS.**

*C. nootkatensis*, *Alaska cedar, Nootka cypress.

*Gymnosporangium nootkatensis* (Trel.) Arth., rust. Wash., Oreg.

*C. thyoides*, whitecedar.

*Gymnosporangium botryapites* (Schw.) Kern, rust. Atlantic Coast States from Mass. to Ala.
*G. ellisii* (Berk.) Farl., rust. Atlantic Coast States from Mass. to Del.; also Fla. and Ala.
*G. transformans* (Ell.) Kern, rust. Mass., N. J.

**CHAYOTA.**

*C. edulis*, chayote.

*Cercospora cucurbitae* Ell. and Ev., leaf-spot. Fla.
*Colletotrichum lagenarium* (Pass.) Ell. and Hals., anthracnose. Fla.

**CHENOPODIUM.**

**C. ambrosioides anthelminticum*, wormseed.

*Cercospora anthelmintica* Atk., leaf-spot. Ala., Miss., Tex.
*C. chenopodii* Fr., leaf-spot. Tex.
*Heterodera radicicola* (Greef) Muell., root-knot. Ala.
*Phyllosticta ambrosioides* Thuem. and Syd., leaf-spot. Del., N. J., La., Ind.

**CHIONANTHUS.**

*C. virginica*, white fringetree.

*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Md.
*Phyllosticta chionanthi* Thuem., leaf-spot. N. J., W. Va.
*Septoria chionanthi* Cke., leaf-spot. S. C.
*S. eleospora* Sacc., leaf-spot. Tex.

**CHRYSANTHEMUM.**

*Chrysanthemum* sp., chrysanthemum.

*Aphelenchus* sp., bud nema. Md.
*Ascochyta chrysanthemi* F. L. Stevens, ray-blight. N. C., S. C.
*Botrytis* sp., bud-rot. Mass., Ky., Minn., Mo.
*B. cinerea* Auct., flower deformation. N. Y.
*Cercospora chrysanthemi* Heald and Wolf., leaf-spot. Tex.
*Corticium vagum* Berk. and Curt., stem-rot. Md.
*Cylindrosporium chrysanthemi* Ell. and Dearn., leaf-spot. Mass., Conn., Pa., N. C., Ga., Miss.
*Erysiphe cichoracearum* DC., powdery mildew. General.
*Fusarium* sp., wilt. Mass., N. J., Ala., Fla., Ohio, Kans.
*Heterodera radicicola* (Greef) Muell., root-knot. Miss., Tex., Wash.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phyllosticta chrysanthemi* Ell. and Dearn., leaf-spot. Mass., Fla.
*Puccinia chrysanthemi* Roze, rust. General.
*Septoria chrysanthemella* Cav., leaf-spot. General east of Great Plains.
*S. leucanthemi* Sacc. and Speg., leaf-spot. Conn.
*Verticillium alboatrum* Reinke and Berth., wilt. N. J.
Chlorosis, nonpar. Pa., Md.
Mosaic, undet. Md., Ohio.
Yellows, undet. Mich.

**CICHORIUM.**

*C. endivia*, endive.

*Corticium vagum* Berk. and Curt., damping-off. Conn.
*Pythium debaryanum* Hesse, root-rot. Conn.
*Sclerotinia sclerotiorum* (Lib.) Mass., watery soft-rot. La.

*C. intybus*, chicory.

*Puccinia hieracii* (Schum.) Mart., rust. Vt., N. Y., Wis., Wash., Oreg.

**CINNAMOMUM.**

*C. camphora*, camphor-tree.

*Diplodia* sp., canker. Tex.
*Gloeosporium camphorae* Sacc., leaf-spot. Fla., Ala., Miss., Tex.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose. Ga., Fla.
*Tylenchus penetrans* Cobb, nematode. Fla.

**CITRULLUS.**

*C. vulgaris*, watermelon.

*Bacillus tracheiphilus* EFS. (*Erwinia tracheiphila* (EFS.) Com. S. A. B.), bacterial wilt. General.
*Cercospora citrullina* Cke., leaf-spot. Ind. to Tex. and eastward.
*Colletotrichum lagenarium* (Pass.) Ell. and Hals., anthracnose. General east of Rocky Mts.; also in Calif.
*Corticium vagum* Berk. and Curt., fruit-rot. La., Wash., Oreg.
*Diplodia* sp., Diplodia rot. Southern States.
*Erysiphe cichoracearum* DC., powdery mildew. Va.
*Fusarium* sp., Fusarium rot. Va., Kans.
*F. niveum* EFS., wilt. Southern two-thirds of United States.
*Heterodera radicicola* (Greef) Muell., root-knot. S. C., Ala., Tex., Calif.
*Macrosporium cucumerinum* Ell. and Ev., leaf-blight. Occurs scatteringly, mostly east of Rocky Mts.
*M. sarcinula parasiticum* Thuem., leaf-spot. Kans.
*Mycosphaerella citrullina* (C. O. Smith) Gross., gummy stem-blight. N. Y., Va., S. C., Tenn., Fla., La., Mo.
*Pseudoperonospora cubensis* (Berk. and Curt.) Rostew., downy mildew. Atlantic Coast and Gulf States; W. Va., Ohio, Mich., Ark., Calif.
*Pythium* sp., blossom-end rot. Va.
*P. aphanidermatum* (Edson) Fitz., rot.
*P. debaryanum* Hesse, rot. Va., Mich.
*Sclerotinia sclerotiorum* (Lib.) Mass., watery soft-rot. N. J.
*Sclerotium rolfsii* Sacc., stem-rot. Southern States.
*Septoria citrulli* Ell. and Ev., leaf-spot. N. Y.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. Utah, Oreg.
Mosaic, undet. Del., Md., Mich.

**CITRUS.**

*Citrus* spp., citrus.

*Tylenchus semipenetrans* Cobb, nematode. Fla., Calif.

*C. aurantifolia*, lime.

*Bacterium citri* (Hasse) Jehle (*Phytomonas citri* (Hasse) Com. S. A. B.), citrus canker. Fla.
*Colletotrichum gloeosporioides* Penz. (*Glomerella cingulata* (Ston.) Spauld. and Schrenk), associated with citrus wither-tip. Fla.
*Gloeosporium limetticolum* R. F. Clausen, lime wither-tip. Fla.
*Phytophthora terrestris* Sherb., foot-rot. Fla.
*Sphaeropsis tumefaciens* Hedges, knot. Fla.
*Sporotrichum citri* Butl. (*Sphaceloma fawcettii* A. Jenkins), scab. Fla.

*C. aurantium*, sour, or Seville, orange.

*Armillaria mellea* (Vahl) Quel., root-rot. Calif.
*Bacterium citrarefaciens* H. A. Lee (*Phytomonas citrarefaciens* (Lee) Com. S. A. B.), citrus blast. Calif.
*B. citri* (Hasse) Jehle (*Phytomonas citri* (Hasse) Com. S. A. B.), citrus canker. Fla., Miss.
*Colletotrichum gloeosporioides* Penz. (*Glomerella cingulata* (Ston.) Spauld. and Schrenk), associated with citrus wither-tip. Fla., Tex., Calif.
*Gloeosporium intermedium* Sacc., anthracnose. Fla.

CITRUS—Continued.

*C. aurantium*, sour, or Seville, orange—Continued.

*Penicillium glaucum* Lk., blue-mold rot. La.
*Phomopsis citri* Fawc., stem-end rot, melanose. Fla., Ala.
*Phytophthora terrestris* Sherb., foot-rot. Fla.
*Sporotrichum citri* Butl. (*Sphaceloma fawcettii* A. Jenkins), scab. Gulf States.
Chlorosis, undet. Calif.
Die-back, undet. Fla.

*C. grandis*, grapefruit.

*Bacterium citrarefaciens* H. A. Lee (*Phytomonas citrarefaciens* (Lee) Com. S. A. B.), citrus blast. Calif.
*B. citri* (Hasse) Jehle (*Phytomonas citri* (Hasse) Com. S. A. B.), citrus canker. Fla., Ala., La., Miss.
*Cephaleuros virescens* Kze., algal leaf-spot. Fla.
*Colletotrichum gloeosporioides* Penz. (*Glomerella cingulata* (Ston.) Spauld. and Schrenk), associated with citrus wither-tip. Fla., Ala., Tex., Miss.
*Diplodia natalensis* Ev., stem-end rot. Fla.
*Phomopsis citri* Fawc., stem-end rot, melanose. Fla., Tex., Ariz.
*Pythiacystis citrophthora* E. H. and R. E. Smith, brown-rot. Ariz.
*Sclerotium rolfsii* Sacc., seedling blight (greenhouse). Ala.
*Sporotrichum citri* Butl. (*Sphaceloma fawcettii* A. Jenkins), scab. Fla., Ala.
*Tylenchus semipenetrans* Cobb, root nematode. Fla., Calif.
Die-back, undet. Fla.
Gummosis, undet. Fla.

*C. limonia*, lemon.

*Alternaria* sp., fruit-rot. Calif.
*Armillaria mellea* (Vahl) Quel., root-rot. Calif.
*Bacterium citrarefaciens* H. A. Lee (*Phytomonas citrarefaciens* (Lee) Com. S. A. B.), citrus blast. Calif.
*B. citri* (Hasse) Jehle (*Phytomonas citri* (Hasse) Com. S. A. B.), citrus canker. Fla., Ala., La., Tex.
*Botrytis cinerea* Auct., gray-mold rot. Calif.
*Colletotrichum gloeosporioides* Penz. (*Glomerella cingulata* (Ston.) Spauld. and Schrenk), associated with citrus wither-tip. Fla., Tex.
*Gloeosporium spegazzinii* Sacc., leaf-scorch. Fla.
*Oospora citri-aurantii* C. O. Smith, sour-rot. Calif.
*Penicillium* sp., blue-mold rot. Calif.
*Phomopsis californica* Fawc., rot. Calif.
*P. citri* Fawc., stem-end rot, melanose. Fla.
*Phyllosticta hesperidearum* (Catt.) Penz., leaf-spot. Colo. (greenhouse).
*Phytophthora terrestris* Sherb., foot-rot. Fla.
*Pythiacystis citrophthora* E. H. and R. E. Smith, brown-rot. N. J. (greenhouse), Calif.
*Sclerotinia sclerotiorum* (Lib.) Mass., cottony rot. Calif.
*Sporotrichum citri* Butl. (*Sphaceloma fawcettii* A. Jenkins), scab. Fla.
Die-back, undet. Fla.
Gummosis, undet. Calif.
Internal decline, nonpar. Calif.

*C. nobilis*, king orange, tangerine.

*Bacterium citri* (Hasse) Jehle (*Phytomonas citri* (Hasse) Com. S. A. B.), citrus canker. Tex.
*Colletotrichum gloeosporioides* Penz. (*Glomerella cingulata* (Ston.) Spauld. and Schrenk), associated with citrus wither-tip. Miss., Calif.
*Oidium tingitaninum* C. N. Carter, powdery mildew. Calif.
*Phomopsis citri* Fawc., stem-end rot, melanose. Fla.
*Sporotrichum citri* Butl. (*Sphaceloma fawcettii* A. Jenkins), scab. Fla., Miss.
Die-back, undet. Fla.

*C. nobilis unshiu*, Satsuma orange.

*Alternaria citri* N. B. Pierce, black-rot. Ala., Calif.
*Bacterium citri* (Hasse) Jehle (*Phytomonas citri* (Hasse) Com. S. A. B.), citrus canker. Fla.
*Colletotrichum gloeosporioides* Penz. (*Glomerella cingulata* (Ston.) Spauld. and Schrenk), associated with citrus wither-tip. Ala.
*Diplodia natalensis* Ev., stem-end rot. Ala., Miss.
*Oospora* sp., soft-rot. Ala., Miss.

**CITRUS**—Continued.

*C. nobilis unshiu*, Satsuma orange—Continued.

*Penicillium digitatum* (Fr.) Sacc., green-mold rot. Ala.
*P. italicum* C. Wehmer, blue-mold rot. Ala.
*Phomopsis citri* Fawc., melanose, stem-end rot. Fla., Ala., Miss
Die-back, undet. Fla.
Gummosis, undet. Fla.

*C. sinensis*, orange.

*Alternaria citri* N. B. Pierce, black-rot. Fla., Ariz., Calif.
*Bacterium citrarefaciens* H. A. Lee (*Phytomonas citrarefaciens* (Lee) Com. S. A. B.), citrus blast. Calif.
*B. citri* (Hasse) Jehle (*Phytomonas citri* (Hasse) Com. S. A. B.), citrus canker. Gulf States.
*Cerospora aurantia* Heald and Wolf, leaf-spot. Tex.
*Colletotrichum gloeosporioides* Penz. (*Glomerella cingulata* (Ston.) Spauld. and Schrenk), die-back, associated with citrus wither-tip. Gulf States.
*Diplodia natalensis* Ev., stem-end rot. Fla.
*Fusarium limonis* Briosi, foot-rot. Ala.
*Oospora* sp., soft-rot. La.
*Penicillium* sp., blue-mold. General.
*Phomopsis citri* Fawc., melanose, stem-end rot. Fla., Ala., Miss., La.
*Phyllosticta adusta* Ell. and Mart., leaf-spot. Fla.
*Phytophthora terrestris* Sherb., foot-rot. Fla.
*Pythiacystis citrophthora* E. H. and R. E. Smith, brown-rot. Ariz.
*Sclerotinia* sp., Calif.
*Septobasidium* sp., girdle. Fla., La.
*Sporotrichum citri* Butl. (*Sphaceloma fawcettii* A. Jenkins), scab. Fla., Miss., Tex.
*Stemphylium citri* F. Patterson and V. K. Charles, end-rot. Ariz.
*Tylenchus semipenetrans* Cobb, root nematode. Fla., Calif.
Chlorosis, undet, Fla., Calif.
Die-back, undet. Miss., Calif.
Greasy spot, undet. Fla.
Gummosis, undet. Fla., Calif.
Mottled-leaf, frenching, undet. Fla., Miss., Calif.
Psorosis, California scaly bark, undet. Fla., Ariz., Calif.
Scaly bark, attributed to *Cladosporium herbarum citricolum* Fawc. Fla.

*C. trifoliata*, hardy orange.

*Bacterium citri* (Hasse) Jehle (*Phytomonas citri* (Hasse) Com. S. A. B.) citrus canker. Ala., Fla.
*Colletotrichum gloeosporioides* Penz. (*Glomerella cingulata* (Ston.) Spauld. and Schrenk), associated with citrus wither-tip. Fla., Tex.
*Diplodia aurantii* Catt., twig-blight. Tex.
*Phoma* sp., damping-off. Tex.
*Phomopsis citri* Fawc., melanose. Fla., Miss.
Die-back, undet. Fla.

**CLEMATIS.**

*Clematis* sp., clematis, virgins-bower.

*Ascochyta clematidina* (Thuem.) emend. W. O. Gloyer, stem-rot and leaf-spot. N. Y., Wis.
*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Minn.
*Cercospora rubigo* Cke. and Hark., leaf-spot. Wash., Calif.
*C. squalidula* Pk., leaf-spot. Frequent in widely scattered States.
*Cylindrosporium clematidis* Ell. and Ev., leaf-spot. Conn., N. Y., Del., Miss., Wis.
*Erysiphe polygoni* DC., powdery mildew. Frequent in widely scattered States.
*Heterodera radicicola* (Greef) Muell., root-knot. Ala., Ohio, Wash., Oreg.
*Phleospora adusta* Heald and Wolf, leaf-blight. Tex.
*Puccinia clematidis* (DC.) Lagh., rust. General.
*P. stromatica* Berk. and Curt., rust. Ala.
*Ramularia clematidis* Dearn. and Barth., leaf-spot. Mont.
*Septoria jackmani* Ell. and Ev., leaf-spot. N. Y.

**COCOS.**

*C. nucifera*, coconut.

*Alternaria* sp., leaf-spot. Fla.
*Colletotrichum* sp., anthracnose. Fla.
*Cytospora palmarum* Cke., leaf-spot. Fla.
*Diplodia epicocos* Cke., stem-rot. Fla.
*Fusarium* sp., dry-rot. Fla.
*Gloeosporium nanoti* Prill. and Del., anthracnose. Fla.
*Pestalozzia palmarum* Cke., leaf-spot. Fla.
*Phytophthora faberi* Maub., bud-rot. Fla.
*Pythium* sp., wilt. Fla.
*Ramularia* sp., leaf-spot. Fla.
*Thielaviopsis paradoxa* (DeSeyn.) Hoehn., root-rot. Fla.

**COFFEA.**

*C. arabica*, coffee.

*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose. Greenhouse, D. C.
*Stilbum flavidum* Cke., leaf-spot. Fla.

**COLOCASIA.**

*C. esculenta*, dasheen.

*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. Storage.
*Diplodia* spp., Java black-rot. Storage.
*Fusarium solani* (Mart.) Sacc., associated with various rots. Fla.
*Heterodera radicicola* (Greef) Muell., root-knot. Fla.
*Sclerotium rolfsii* Sacc., storage rot.

**COMPTONIA.**

*C. asplenifolia*, sweetfern.

*Cronartium comptoniae* Arth., rust. N. H., Vt., N. Y. to N. C., Wis.

**CORNUS.**

*Cornus* spp., dogwood.

*Ascochyta cornicola* Sacc., leaf-spot. Ohio, Wis.
*Botrytis* sp., twig-blight. Pa.
*Cercospora cornicola* Tr. and Earle, leaf-spot. Ga., Fla., Miss., Tex.
*Diaporthe albocarnis* Ell. and Ev., canker. Colo.
*Dimerosporium pulchrum* Sacc., sooty mold. Miss., Tex., Ill., Iowa.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Frequent in Northeastern States.
*Myxosporium nitidum* Berk. and Curt., twig-blight. Frequent in Northeastern States.
*Phoma corni* Fckl., canker. Minn.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. General.
*Phyllosticta corni* West., leaf-spot. W. Va.
*P. globifera* Ell. and Ev., leaf-spot. Kans.
*Physalospora corni* Ell. and Ev. Colo.
*Septoria cornicola* Desm., leaf-spot. General.

*C. florida*, flowering dogwood.

*Cercospora cornicola* Tr. and Earle, leaf-spot. Miss.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. S. C., Ala., Ind., Ill., Iowa.
*Phyllosticta globifera* Ell. and Ev., leaf-spot. Del., W. Va.
*P. starbaeckii* Sacc. and Syd., leaf-spot. Pa.
*Septoria cornicola* Desm., leaf-spot. Pa., S. C., Ind., Ky.

*C. nuttalli*, Pacific dogwood.

*Fomes igniarius* Fr., white wood-rot.
*Nectria galligena* Bres., European canker. Wash., Oreg.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Wash., Oreg.

**CORYLUS.**

*Corylus* sp., filbert, hazelnut.

*Bacterium* sp., blight. Oreg.
*Cryptosporella anomala* (Pk.) Sacc., blight. Conn. to N. C.
*Cylindrosporium vermiforme* Davis, leaf-spot. Wis.
*Gloeosporium coryli* Ell. and Ev., leaf-spot. Me., N. J., Pa., Wash., Oreg.
*Gnomoniella coryli* (Batsch) Sacc., leaf-spot. General in Northern States.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Conn., Ill., Iowa, N. Dak.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Northeastern States.
*Phyllosticta coryli* West., leaf-spot. N. J., Ind., Iowa, Mo.
*Septogloeum profusum* (Ell. and Ev.) Sacc., leaf-spot. Miss.
*Septoria corylina* Pk., leaf-spot. Mass., N. Y., Mich., Pacific coast.
*Taphrina coryli* T. Nishida, leaf-curl. Pa., Wis.

**COSMOS.**

*Cosmos* sp., cosmos.

*Bacterium solanacearum* EFS. (*Phytomonas solanaceara* (EFS.) Com. S. A. B.), bacterial wilt. N. C.
*Erysiphe cichoracearum* DC., powdery mildew. Nebr.
*Phomopsis stewartii* Pk., stem canker. Ohio, Mich., S. Dak.
Mosaic, undet. Fla.

**CRATAEGUS.**

*Crataegus* spp., hawthorn.

*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. Conn., N. Y., Ill., Utah, Wash., Oreg.
*Cercospora crataegi* Heald and Wolf, leaf-spot. Tex.
*Cercosporella mirabilis* Pk., leaf-spot. Colo.
*Cladosporium carpophilum* Thuem., scab. Iowa.
*Cylindrosporium brevispina* Dearn., leaf-spot. Mont., Idaho, Calif.
*C. crataegi* Ell. and Ev., leaf-spot. W. Va.
*Fabraea maculata* (Lév.) Atk., leaf-spot. General.
*Fomes applanatus* (Pers.) Wallr. (*Ganoderma applanatum* (Pers.) Pat.), white-streaked rot. Calif.
*Gymnosporangium betheli* Kern, rust. N. Mex., Northern Rocky Mt. States; Pacific Northwest.
*G. blasdaleanum* (Diet. and Holw.) Kern, rust. Oreg., Calif.
*G. exiguum* Kern, rust. Tex.
*G. floriforme* Thax., rust. Ala., Ark.
*G. germinale* (Schw.) Kern, rust. General east of Great Plains.
*G. globosum* Farl., rust. General east of Great Plains.
*G. hyalinum* (Cke.) Kern, rust. N. C. to Fla.
*G. trachysorum* Kern, rust. N. C., Ala., La., Miss., Tex.
*G. tubulatum* Kern, rust. Mont., Idaho.
*Hendersonia crataegi* Brenckle, leaf-spot. N. Dak.
*H. foliorum* Fckl., leaf-spot. Tex.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Tex.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. N. Y., Fla., Ala., Ill., Iowa, Wash.
*Phyllosticta crataegi* (Cke.) Sacc., leaf-spot. N. Y., S. C., N. Dak., N. Mex.
*P. grisea* Pk., leaf-spot. N. Y.
*P. solitaria* Ell. and Ev., blotch. N. J.
*Podosphaera oxyacanthae* (DC.) D By., powdery mildew. East of Great Plains.
*Venturia inaequalis* (Cke.) Aderh., scab. N. Y.

**CROTON.**

*Croton* sp., croton.

*Cercospora capitati* Tharp, leaf-spot. S. C., Ala., Tex.
*C. crotonis* Ell. and Ev., leaf-spot. Kans.
*C. maritima* Tr. and Earle, leaf-spot. Miss.
*Gloeosporium* sp., leaf-spot. N. J.
*Phakopsora crotonis* (Burr.) Arth., rust. General in southern half of the United States.
*Uromyces graminicola* Burr., rust. Ill., Kans.

CUCUMIS.

*C. melo*, cantaloupe, muskmelon.

*Bacillus melonis* Gidd. (*Erwinia melonis* (Gidd.) Com. S. A. B.), soft-rot. Vt., Mass.
*B. tracheiphilus* EFS. (*Erwinia tracheiphila* (EFS.) Com. S. A. B.), bacterial wilt. General.
*Cercospora cucurbitae* Ell. and Ev., leaf-spot. Del.
*Cladosporium cucumerinum* Ell. and Arth., scab. Mass., Conn., N. J., Del., Ohio, Mich., Calif.
*Colletotrichum lagenarium* (Pass.) Ell. and Hals., anthracnose. General east of Great Plains.
*Erysiphe cichoracearum* DC., powdery mildew. Va., Fla.
*Fusarium niveum* EFS., wilt. General in southern half of the United States.
*Heterodera radicicola* (Greef) Muell., root-knot. General in sandy soils in Southern States.
*Macrosporium cucumerinum* Ell. and Ev., leaf-blight. General.
*Mycosphaerella citrullina* (C. O. Smith) Gross., gummy stem-blight. N. Y.
*Phyllosticta cucurbitacearum* Sacc., leaf-spot. Ohio.
*Pseudoperonospora cubensis* (Berk. and Curt.) Rostew., downy mildew. General east of Great Plains, especially in Gulf and Atlantic Coast States.
*Sclerotinia sclerotiorum* (Lib.) Mass., timber rot. Mass.
*Sclerotium rolfsii* Sacc., stem-rot. South Atlantic and Gulf States.
*Septoria cucurbitacearum* Sacc., leaf-spot. N. Y., Wis.
Mosaic, undet. Frequent in widely scattered States.

*C. sativus*, cucumber.

*Acremonium* sp., leaf-blight. Mass., Ohio.
*Bacillus* sp., soft-rot. Fla.
*B. melonis* Gidd. (*Erwinia melonis* (Gidd.) Com. S. A. B.), soft-rot. Ala.
*B. tracheiphilus* EFS. (*Erwinia tracheiphila* (EFS.) Com. S. A. B.), bacterial wilt. General.
*Bacterium lachrymans* EFS. and Mary K. Bryan, angular leaf-spot. East of Great Plains; Colo., Calif. (in greenhouse).
*Cercospora* sp., leaf-spot. Ind.
*Cladosporium cucumerinum* Ell. and Arth., scab. General.
*Colletotrichum lagenarium* (Pass.) Ell. and Hals., anthracnose. East of Great Plains, Colo., Ariz., Calif.
*Corticium vagum* Berk. and Curt., stem-rot. Ohio, Wash.
*Erysiphe cichoracearum* DC., powdery mildew. Widespread, especially in Northern States.
*Fusarium niveum* EFS., wilt. Frequent east of Great Plains, especially in the South; N. Mex., Calif.
*Heterodera radicicola* (Greef) Muell., root-knot. In sandy soils in Southern States.
*Macrosporium cucumerinum* Ell. and Ev., leaf-blight. General.
*Mycosphaerella citrullina* (C. O. Smith) Gross., gummy stem-blight. Fla.
*Phyllosticta cucurbitacearum* Sacc., leaf-spot. Ohio.
*Pseudoperonospora cubensis* (Berk. and Curt.) Rostew., downy mildew. General east of Great Plains, especially in Gulf and Atlantic Coast States; Calif.
*Pythium aphanidermatum* (Edson) Fitz., cottony leak. N. C., S. C.
*P. debaryanum* Hesse, damping-off. Mass., N. Y., Ohio, Mich., Minn.
*Sclerotinia sclerotiorum* (Lib.) Mass., timber rot. Widespread.
*Sclerotium rolfsii* Sacc., stem-rot. S. C.
*Stemphylium cucurbitacearum* Geo. Osner, leaf-spot. Ohio, Ind.
Mosaic, undet. General.

CUCURBITA.

*Cucurbita* sp., gourd.

*Bacterium lachrymans* EFS. and Mary K. Bryan, angular leaf-spot.
*Cercospora cucurbitacea* Ell. and Gall., leaf-spot. Ala.
*Colletotrichum lagenarium* (Pass.) Ell. and Hals., anthracnose. Ill.
*Pseudoperonospora cubensis* (Berk. and Curt.) Rostew., downy mildew. Ohio, Ind.

*C. maxima*, squash; *C. pepo condensa*, summer squash.

*Bacillus tracheiphilus* EFS. (*Erwinia tracheiphila* (EFS.) Com. S. A. B.), bacterial wilt. East of Great Plains; Colo., Calif.

**CUCURBITA**—Continued.

*C. maxima*, squash; *C. pepo condensa*, summer squash—Continued.

*Cercospora cucurbitae* Ell. and Ev., leaf-spot. N. J., Ohio.
*Choanephora cucurbitarum* (Berk. and Rav.) Thax., brown-rot, blossom blight. Mass., Conn., N. Y., N. C., S. C., Fla., Ohio, Tex.
*Cladosporium cucumerinum* Ell. and Arth., scab. Me.
*Colletotrichum lagenarium* (Pass.) Ell. and Hals., anthracnose. Mass., Conn., Pa., Md., Ohio, Minn.
*Corticium vagum* Berk. and Curt., stem-rot. Mass.
*Erysiphe cichoracearum* DC., powdery mildew. Conn., Del., N. Mex., Utah.
*Fusarium niveum* EFS., wilt. N. C., Tex., Ohio, Nebr., N. Mex., Ariz., Calif.
*Heterodera radicicola* (Greef) Muell., root-knot. Tex.
*Macrosporium cucumerinum* Ell. and Ev., leaf-blight. N. Y., Minn.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Pseudoperonospora cubensis* (Berk. and Curt.) Rostew., downy mildew. Conn., Del., Va., S. C., Tex.
*Rhizopus* sp., black-mold rot. N. Y., Tex.
*Septoria cucurbitacearum* Sacc., leaf-spot. Ind.
Mosaic, undet. Vt., Conn., N. J., Pa., La., Tex., Minn.

*C. pepo*, pumpkin.

*Bacillus tracheiphilus* EFS. (*Erwinia tracheiphila* (EFS.) Com. S. A. B.), bacterial wilt. Ohio, Calif.
*Botrytis cinerea* Auct., gray-mold rot. Tex.
*Cercospora cucurbitae* Ell. and Ev., leaf-spot. Del.
*Corticium vagum* Berk. and Curt., stem-rot. Tex.
*Erysiphe cichoracearum* DC., powdery mildew. Conn., Del., N. Mex., Calif.
*Heterodera radicicola* (Greef) Muell., root-knot. La., Tex.
*Macrosporium cucumerinum* Ell. and Ev., leaf-blight. W. Va., Minn.
*Phyllosticta orbicularis* Ell. and Ev., leaf-spot. N. Y., Del.
*Pseudoperonospora cubensis* (Berk. and Curt.) Rostew., downy mildew. Conn., N. J., Va., Ohio.
*Septoria cucurbitacearum* Sacc., leaf-spot.

**CUPRESSUS.**

*C. arizonica*, Arizona cypress.

*Gymnosporangium cupressi* Long and L. N. Goodding, rust. Ariz.

*C. glabra*, smooth cypress.

*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phoma* sp., nursery blight. Pa., Ill., Iowa, Nebr., Kans.

**CYCAS.**

*C. revoluta*, sago cycas.

*Ascochyta cycadina* G. Scalia, leaf-spot. Tex.

**CYCLAMEN.**

*Cyclamen* sp., cyclamen.

*Botrytis cinerea* Auct. Pa., Ohio, Calif.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose. Mass., Va.
*Heterodera radicicola* (Greef) Muell., root-knot. W. Va., Ohio, Ind., Nebr.
*Phoma cyclamenae* Hals., leaf-spot. Ohio.
*Phyllosticta cyclaminicola* Trel., leaf-spot. Ill.
*Ramularia cyclaminicola* Trel., leaf-spot. Ill., Minn.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. Conn.

**CYDONIA.**

*C. japonica*, flowering quince.

*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. Mich.
*Gymnosporangium blasdaleanum* (Diet. and Holw.) Kern, rust. Oreg.
*G. germinale* (Schw.) Kern, rust. Me., Conn., N. J.

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**CYDONIA**—Continued.

*C. oblonga*, common quince.

*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. General.
*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. N. J., Pa., Ohio, N. C., Tex., Wash., Oreg.
*Corticium stevensii* Burt (*Hypochnus ochroleucus* F. Noack), leaf-blight. N. C.
*Fabraea maculata* (Lév.) Atk., leaf-blight. General.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, bitter-rot. Mass., R. I., Pa., Va., W. Va., Mich., Ind., Kans.
*Gymnosporangium blasdaleanum* (Diet. and Holw.) Kern, rust. Oreg.
*G. clavariaeforme* (Jacq.) DC., rust. Me., N. H., Conn.
*G. germinale* (Schw.) Kern, rust. General east of Great Plains.
*G. nelsoni* Arth., rust. Colo.
*G. nidus-avis* Thax., rust. Conn., N. Y.
*Hendersonia cydoniae* Cke. and Ell., leaf-spot. Conn.
*Neofabraea malicorticis* (A. B. Cordley) Jack., anthracnose. Oreg.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phoma cydoniae* Sacc., pale-rot. Ill., Mich.
*P. pomi* Pass., fruit-spot. N. H., N. J., Pa., Md.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Va.
*Physalospora malorum* (Pk.) Shear (*P. cydoniae* Am. Auct.), black-rot. East of Great Plains.
*Podosphaera leucotricha* (Ell. and Ev.) Salm., powdery mildew. Wash.
*P. oxyacanthae* (DC.) D By., powdery mildew. N. Y., Ill., Ind.
*Sclerotinia cinerea* (Bon.) Schroet. (*Monilia oregonensis* Barss and Posey), blossom blight. Wash., Oreg.
*S. fructicola* (Wint.) Rehm (*S. americana* (Wormald) Norton and Ezekiel), brown-rot. N. Y., W. Va., Oreg.

**CYNARA.**

*C. scolymus*, globe artichoke.

*Botrytis cinerea* Auct., rot. N. Y., Calif. General with host.
*Cercospora obscura* Heald and Wolf, leaf-spot. Tex.
*Cladosporium* sp., leaf-blight. S. C.
*Corticium vagum* Berk. and Curt., stem-rot. Miss.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Sclerotium rolfsii* Sacc., stem-rot. Ga.

**DACTYLIS.**

*D. glomerata*, orchard grass.

*Claviceps microcephala* (Wallr.) Tul., ergot. Ind., Alaska.
*C. purpurea* (Fr.) Tul., ergot. N. Y., Va., W. Va., Minn.
*Colletotrichum graminicolum* (Ces.) Wils., anthracnose. Pa., Miss., Ohio, Minn.
*Erysiphe graminis* DC., powdery mildew. N. Y., Pa., Minn., Idaho, Utah.
*Gibberella saubinetii* (Mont.) Sacc., scab. W. Va.
*Helminthosporium* sp., leaf-spot. Minn.
*Puccinia graminis* Pers., stem-rust. General.
*Rhynchosporium secalis* (Oud.) Davis, scald. Wis.
*Scolecotrichum graminis* Fckl., leaf-spot. Widespread.
*Uromyces dactylidis* Otth, leaf-rust. Va., N. C.
*Ustilago striaeformis* (West.) Niessl, stripe-smut. General.

**DAHLIA.**

*Dahlia* sp., dahlia.

*Bacterium solanacearum* EFS. (*Phytomonas solanaceara* (EFS.) Com. S. A. B.), bacterial wilt. N. C.
*Botrytis* sp., bud-rot. N. J., Pa., Mich.
*B.* sp., storage root-rot. N. J.
*Corticium vagum* Berk. and Curt., stem-rot. Md.
*Erysiphe cichoracearum* DC., powdery mildew. Conn., Md., N. C., W. Va., Ohio, Wash., Calif.

**DAHLIA**—Continued.

*Dahlia* sp., dahlia—Continued.

*E. polygoni* DC., powdery mildew. Del., Ga., Iowa, Mo., Calif.
*Fusarium* sp., wilt. N. J.
*Heterodera radicicola* (Greef) Muell., root-knot. Miss., Calif.
*Macrosporium* sp., leaf-blight. Pa., Mo.
*Phoma dahliae* Berk., blight. Ohio.
*Pythium debaryanum* Hesse, damping-off. Conn., Wash.
*Sclerotinia sclerotiorum* (Lib.) Mass., stem-rot. Calif.
*Sclerotium rolfsii* Sacc., stem-rot. Fla.
*Sporotrichum* sp., root-rot. N. J.
*Verticillium alboatrum* Reinke and Berth., wilt.
Mosaic or yellows, undet. Conn., Del.

**DAUCUS.**

*D. carota*, carrot.

*Alternaria radicina* F. Meier, Drechs., and E. D. Eddy, black-rot. Mass., N. Y.
*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. General, especially east of Rocky Mts.
*Botrytis* sp., gray-mold rot. Pa., Wash.
*Cercospora* sp., leaf-blight. Md.
*C. apii carotae* Pass., leaf-spot. N. Y., Pa., N. J., Md., Ohio, Ind., Mich., Mo.,
*Corticium vagum* Berk. and Curt., stem-rot. Mass., N. Y., Mich., Ill., Tex. Wash., Oreg.
*Heterodera radicicola* (Greef) Muell., root-knot. Occurs in widely scattered States.
*Macrosporium carotae* Ell. and A. B. Langlois, leaf-blight. Occurs scatteringly in Eastern States.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Rhizoctonia crocorum* (Pers.) DC., violet root-rot. Wash.
*Sclerotinia intermedia* G. B. Ramsey, root-rot. Ill.
*S. sclerotiorum* (Lib.) Mass., watery soft-rot. Conn., N. Y., N. J., La., Miss., Ind., Ill.
*Sclerotium rolfsii* Sacc., stem-rot. S. C.

**DELPHINIUM.**

*Delphinium* spp., larkspur.

*Bacterium delphinii* (EFS.) Bryan, black-spot. Me., N. H., Mass., Conn., N. Y., Pa., Ill., Oreg.
*Botrytis* sp., gray-mold. Conn.
*Cercospora delphinii* Thuem., leaf-spot. Colo.
*Corticium vagum* Berk. and Curt., stem-rot. N. Y., Mich.
*Erysiphe polygoni* DC., powdery mildew. Me., Conn., N. Y., Pa., Minn.
*Fusarium* sp., wilt. Fla.
*Phyllosticta delphinii* F. E. Clements, leaf-spot. Colo.
*Puccinia clematidis* (DC.) Lagh., rust. Nebr., Colo., Mont., Idaho, Oreg.
*Sclerotium delphinii* D. S. Welch, crown-rot. N. Y., Pa., N. J., Ind.
*S. rolfsii* Sacc., stem-rot. N. J., Fla., La., Ind., Ill.
*Septoria delphinella* Sacc., leaf-spot. Kans.
*Urocystis sorosporioides* Koern., smut. Calif.

**DEUTZIA.**

*Deutzia* sp., deutzia.

*Cercospora deutziae* Ell. and Ev., leaf-spot. Del.
*Heterodera radicicola* (Greef) Muell., root-knot. Miss.
*Phyllosticta deutziae* Ell. and Ev., leaf-spot. N. J.

**DIANTHUS.**

*D. barbatus*, sweet-william.

*Corticium vagum* Berk. and Curt., stem-rot. Conn., N. Y.
*Puccinia arenariae* (Schum.) Wint., rust. Conn., Mass., N. Y., Pa., Miss.
*Septoria dianthi* Desm., leaf-spot. Ala.
*Uromyces caryophyllinus* (Schrank) Wint., rust. Nebr.

**DIANTHUS**—Continued.

*D. caryophyllus*, carnation.

*Alternaria dianthi* F. L. Stevens and J. G. Hall, leaf-spot. Occurs scatteringly in Eastern States.
*Bacterium woodsii* EFS., bacterial spot. Okla.
*Botrytis* sp., bud-blight. Conn., Pa., Ohio, Ill.
*Corticium vagum* Berk. and Curt., stem-rot. General.
*Fusarium* sp., wilt. Widespread.
*Heterodera radicicola* (Greef) Muell., root-knot. Mass., N. C., S. C., Ohio, Tex., Oreg., Calif.
*Heterosporium echinulatum* (Berk.) Cke., leaf-spot. Conn., N. Y., Oreg., Calif.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Septoria dianthi* Desm., leaf-spot. Mass., Conn., N. Y., Del., S. C., Miss.
*Sporotrichum anthophilum* Pk., bud-rot. N. Y., N. J., Ind., Ill., Nebr.
*S. poae* Pk., bud-rot. Mass., Pa., N. J., Nebr.
*Uromyces caryophyllinus* (Schrank) Wint., rust. General.
*Volutella dianthi* (Hals.) Atk., anthracnose. Pa.

**DIERVILLA.**

*D. trifida*, bush-honeysuckle.

*Phyllosticta diervillae* Davis, leaf-spot. Wis.
*Ramularia diervillae* Pk., leaf-spot. N. H., N. Y., Wis.
*Septoria diervillae* Ell. and Ev., leaf-spot. Mass., Iowa, Minn., Wis.

**DIGITALIS.**

*D. purpurea*, foxglove.

*Colletotrichum* sp., anthracnose. Mass.
*Phyllosticta digitalis* A. Bellynck, leaf-spot. N. Y., Alaska.

**DIOSPYROS.**

*D. kaki*, Japanese persimmon.

*Cercospora diospyri* Thuem., leaf-spot. S. C.
*C. fuliginosa* Ell. and Kell., leaf-spot. Fla., Tex., Ill.
*C. kaki* Ell. and Ev., leaf-spot. Ga., Ala., La., Tex.
*Heterodera radicicola* (Greef) Muell., root-knot. Tex.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phyllosticta biformis* Heald and Wolf, leaf-spot. Tex.
*Physalospora cydoniae* Arn. (?), fruit-rot. Ala.

*D. virginiana*, common persimmon.

*Cercospora atra* Ell. and Ev., leaf-spot. Del.
*C. diospyri* Thuem., leaf-spot. General throughout range of host.
*C. flexuosa* Tr. and Earle, leaf-spot. Miss.
*C. fuliginosa* Ell. and Kell., leaf-spot. Ala., Kans., Tex.
*C. virginiana* Thuem., leaf-spot. Ala.
*Gloeosporium diospyri* Ell. and Ev., anthracnose. Del., W. Va., Ala., Miss.
*Macrophoma diospyri* Earle, fruit-spot. Ala.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Tex.
*Podosphaera oxyacanthae* (DC.) D By., powdery mildew. Ind.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.

**ELAEAGNUS.**

*E. angustifolia*, Russian-olive.

*Aecidium arctoum* Arth., rust. N. Dak.
*Cercospora elaeagni* Heald and Wolf, leaf-spot. Tex.
*Septoria argyraea* Sacc., leaf-spot. Iowa, N. Dak.

*E. argentea*, silverberry.

*Puccinia coronata* Cda., crown-rust. N. Dak., Mont.

**ERIOBOTRYA.**

*E. japonica*, loquat.

*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. Fla., La., Calif.
*Fusicladium eriobotryae* Cav., scab. Fla., Calif.

**ERYTHRINA.**

*E. crista-galli*, coraltree.

*Cercospora erythrinae* Ell. and Ev., leaf-spot. La.

**ESCHSCHOLTZIA.**

*E. californica*, California poppy.

*Entyloma eschscholtziae* Hark., smut. Calif.
*Heterodera radicicola* (Greef) Muell., root-knot.

**EUCALYPTUS.**

*Eucalyptus* spp., eucalyptus.

*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Calif.
*Botrytis* sp., gray-mold. Calif.
*Diaporthe eucalyptica* Hark. Calif.
*Fomes applanatus* (Pers.) Wallr. (*Ganoderma applanatum* (Pers.) Pat.), white-streaked rot. Calif.
*Hendersonia coryneoidea* Cke. and Hark., leaf-spot. Calif.
*H. eucalypti* Cke. and Hark., leaf-spot. Calif.
*Macrophoma molleriana* (Thuem.) Berl. Calif.
*Pezizella lythri* (Desm.) Shear and B. O. Dodge, leaf-spot. Calif.
*Phyllosticta eucalypti* Ell. and Ev., leaf-spot. Calif.
*P. extensa* Sacc. and Syd., leaf-spot. Calif.
*Physalospora latitans* Sacc. Calif.
*P. suberumpens* Ell. and Ev. Calif.
*Polyporus schweinitzii* Fr., red-brown butt-rot. Calif.
*Septoria ceuthosporoides* (Cke.) Sacc., leaf-spot. Calif.
*S. mortolensis* Penz. and Sacc., leaf-spot. Calif.
Damping-off (seedlings), undet. Calif.
Powdery mildew (seedlings), undet. Calif.

**EUCHLAENA.**

*E. mexicana*, teosinte.

*Helminthosporium turcicum* Pass., leaf-blight. Tex.
*Physoderma zeae-maydis* Shaw, brown-spot. Fla., La.
*Puccinia sorghi* Schw., rust. Nebr.
*Ustilago zeae* (Beckm.) Ung., smut. Conn., Ala., Ill., Iowa, Kans.

**EUONYMUS.**

*Euonymus* spp., burningbush, wahoo.

*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS and Town.) Com. S. A. B.), crown-gall. Conn.
*Cercospora destructiva* Rav., leaf-spot. S. C., Miss.
*C. evonymi* Ell., leaf-spot. Ky., Ill., Nebr., Kans.
*Cladosporium fasciculatum* Cda. S. C.
*Colletotrichum griseum* Heald and Wolf, anthracnose. La., Tex.
*Exosporium concentricum* Heald and Wolf, leaf-spot. Tex.
*Gloeosporium frigidum* Sacc., anthracnose. Miss.
*Marssonia thomasiana* Sacc., leaf-spot. Mich., Wis., Ill.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Ind., Ill., Iowa, Nebr., Miss.
*M. euonymi* (DC.) Sacc., powdery mildew. N. J., Miss., Ohio, Minn.
*Oidium euonymi-japonici* (G. Arcangeli) Sacc., powdery mildew. La.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phyllosticta evonymi* Sacc., leaf-spot. Del.
*P. pallens* Ell. and Ev., leaf-spot. Ala., Tex., Ind.
*Ramularia euonymi* Ell. and Kell., leaf-spot. Mo., Kans.
*Septoria euonymi* Rabh., leaf-spot. Va.

**EUPHORBIA.**

*E. marginata*, snow-on-the-mountain.

*Alternaria tenuis* Nees, leaf-spot. Kans.
*Microsphaera euphorbiae* (Pk.) Berk. and Curt., powdery mildew. Ind., Mo., Kans.
*Puccinia pammelii* (Trel.) Arth., rust. Miss. Valley and Mo. Valley States.
*Uromyces proeminens* (DC.) Pass., rust. Great Plains, Upper Miss. Valley.

**FAGOPYRUM.**

*F. esculentum,* buckwheat.

*Corticium vagum* Berk. and Curt., stem-rot. N. C., Minn., Wash.
*Phyllosticta polygonorum* Sacc., leaf-spot. N. J.
*Ramularia anomala* Pk., leaf-spot. Ind.
*R. rufo-maculans* Pk., leaf-spot. Conn., Mich.

**FAGUS.**

*F. americana,* American beech.

*Fomes applanatus* (Pers.) Wallr. (*Ganoderma applanatum* (Pers.) Pat.), white-streaked rot. General throughout range of host.
*F. fomentarius* (L.) Fr., white sapwood rot. New England, N. Y., Pa.
*F. igniarius* (L.) Fr., white heart-rot. Mass.
*Gloeosporium fagi* (Desm.) Ell. and Ev., leaf-spot. Conn., N. Y., Pa.
*Hydnum septentrionale* Fr., white sapwood rot. Ind.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. East of Miss. River.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. N. Y., Ohio, Ill.
*Phyllosticta faginea* Pk., leaf-spot. N. Y., Ohio, Ind., Wis.

**FESTUCA.**

*Festuca* spp., fescue.

*Claviceps purpurea* (Fr.) Tul., ergot. Me., N. Y., Pa., Va., Ill., Minn.
*Colletotrichum graminicolum* (Ces.) Wils., anthracnose. Pa., Minn.
*Corticium vagum* Berk. and Curt., stem-rot. General.
*Helminthosporium dictyoides* Drechs., net-blotch. New England, N. Y., Pa., Md., D. C., Va.
*Ophiobolus graminis* Sacc., take-all. N. Y., Ark.
*Pleomeris piperi* (Ricker) Syd., rust. Utah, Oreg., Calif.
*Puccinia abundans* (Pk.) Jack., rust. N. Dak., Colo., Utah, Calif.
*P. coronata* Cda., crown-rust. Conn., N. Y., Pa., Ky., Ind., Mo., Nebr., Kans., Colo., Oreg.
*P. epiphylla* (L.) Wetts., rust. Oreg.
*P. graminis* Pers., stem-rust. N. Y., Pa., Tenn., Ind., Mich., Minn., Iowa, Colo., Wyo., Wash., Oreg., Calif.
*Septoria tenella* Cke. and Ell., leaf-spot. N. J., Kans., Colo.
*Tilletia fusca* Ell. and Ev., covered smut. Western States.
*Uromyces hordei* Tr., rust. Miss., Tex.
*Ustilago mulfordiana* Ell. and Ev., smut. Western States.
*U. striaeformis* (West.) Niessl, stripe-smut. Md., N. Dak.

**FICUS.**

*F. aurea,* Florida strangler fig.

*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Fla.
*Cerotelium fici* (Cast.) Arth., rust. Fla.
*Colletotrichum elasticae* F. Tassi, anthracnose. Fla.
*Ophiodothella fici* E. Bessey, leaf-spot. Fla.

*F. carica,* fig.

*Aspergillus niger* Tiegh., fruit-rot (smut). Calif.
*Botrytis cinerea* Auct., twig-blight, canker. Wash., Calif.
*Cercospora fici* Heald and Wolf, leaf-spot. General in South.
*Cerotelium fici* (Cast.) Arth., rust. General in South.
*Colletotrichum elasticae* F. Tassi, anthracnose. Miss.
*Corticium laetum* Karst., limb-blight. Ga., Ala., La., Miss.
*Diplodia sycina syconophila* Sacc., die-back. Tex.
*Fusarium moniliforme* Sheld., fruit-rot. Calif.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose. Gulf States.
*Heterodera radicicola* (Greef) Muell., root-knot. Gulf States, N. Mex., Ariz.
*Macrophoma fici* Alm. and Cam., canker, fruit-rot. Tex.
*Mycosphaerella bolleana* Hig., leaf-spot. General in South.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Rhizoctonia microsclerotia* J. Matz, leaf-blight. Fla., Ala., La., Tex.
*Rhizopus nigricans* Ehr., rot. Ala., La.
*Sclerotinia sclerotiorum* (Lib.) Mass., die-back.
*Tubercularia fici* Edg., canker. Ala., La.

**FICUS**—Continued.

*F. elastica*, India rubbertree.

*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose. Miss.
*Phyllosticta roberti* L. Boyer and Jacz., leaf-spot. Fla.

**FILIPENDULA.**

*Filipendula* sp., meadowsweet.

*Cylindrosporium* sp. Conn.
*Septoria ulmariae* Oud., leaf-spot. Conn.
*Sphaerotheca humuli* (DC.) Burr., powdery mildew. Vt.
*Triphragmium ulmariae* (Schum.) Lk., rust. Ind.

**FORSYTHIA.**

*Forsythia* sp., forsythia, *goldenbell.

*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Miss.
*Heterodera radicicola* (Greef) Muell., root-knot. Miss.
*Phyllosticta discincola* Ell. and Ev., leaf-spot. Md.
*P. terminalis* Ell. and Mart., leaf-spot. Fla.

**FRAGARIA.**

*Fragaria* sp., strawberry.

*Armillaria mellea* (Vahl) Quel., root-rot. Oreg.
*Botrytis cinerea* Auct., gray-mold rot. General.
*Corticium vagum* Berk. and Curt., crown-rot. Wash.
*Dendrophoma obscurans* (Ell. and Ev.) H. W. Anderson, angular spot. N. J., Md., Va., W. Va., S. C., Ill., Mich., Minn., Mo.
*Diplocarpon earliana* (Ell. and Ev.) Wolf (*Marssonia fragariae* Sacc.), leaf-scorch. East of Miss. River; Wis., Mont.
*Heterodera radicicola* (Greef) Muell., root-knot. Ark., Miss., Wash.
*Mycosphaerella fragariae* (Tul.) Lindau, leaf-spot. General.
*Pezizella lythri* (Desm.) Shear and B. O. Dodge, tan brown-rot. Me., Md., Va., Fla., La., Ark., Ohio, Wis.
*Phyllosticta fragaricola* Desm. and Rob., leaf-spot. N. J., Fla.
*Phytophthora cactorum* (Leb. and Cohn) Schroet., leather rot. Ky., Tenn., Ark., Ill., Mo., Miss., La.
*Pythium* sp., lilac soft-rot. Tenn.
*Rhabdospora fragaria* Atk., leaf-spot. Ill.
*Rhizoctonia* sp., hard brown-rot (fruit). Tenn., N. C., Fla.
*Rhizopus nigricans* Ehr., leak. General east of Great Plains.
*Sclerotinia sclerotiorum* (Lib.) Mass., crown-rot. La., Miss., Tenn., Ark., Mo., Ohio.
*Sclerotium rolfsii* Sacc., stem-rot. Fla.
*Sphaeronemella fragariae* F. L. Stevens and A. Peterson, fruit-rot. Fla., La.
*Sphaeropsis* sp., black-rot. Ill.
*Sphaerotheca humuli* (DC.) Burr., powdery mildew. General.
*Tylenchus dipsaci* (Kuehn) Bast., stem nematode. Wash., Oreg.
Black-root, undet. Tenn., Fla., Ala., Mich., Wis., Colo.

**FRAXINUS.**

*Fraxinus* spp., ash.

*Cercospora fraxinea* Ell. and Ev., leaf-spot. Kans.
*C. fraxinites* Ell. and Ev., leaf-spot. Fla., La., Tex.
*C. superflua* Ell. and Holw., leaf-spot. Iowa.
*C. texensis* Ell. and Gall., leaf-spot. Tex.
*Cercosporella trichophila* Davis, leaf-spot. Wis.
*Cladosporium epiphyllum* (Pers.) C. Martius, leaf-spot. N. Y.
*Cylindrosporium californicum* Earle, leaf-spot. Oreg.
*C. fraxini* Ell. and Kell., leaf-spot. Md., Mich., Kans., Pacific coast.
*C. minor* Ell. and Kell., leaf-spot. Kans.
*C. viridis* Ell. and Kell., leaf-spot. La., Tex., Wash.
*Fomes fraxinophilus* Pk., white heartwood rot. Widespread.
*Gloeosporium aridum* Ell. and Holw., anthracnose. Conn., Mass., Pa., Ohio, Mich., Wis.
*G. decipiens* Ell. and Ev., spot. Iowa, Kans., Tex.
*G. fraxini* Hark., anthracnose. N. Y., Mich., Calif.
*Leptosphaeria fraxini* Ell. and Ev. Mo.
*Marssonia fraxini* Ell. and Davis, leaf-spot. Wis.

**FRAXINUS**—Continued.

*Fraxinus* spp., ash—Continued.

*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.

*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Tex., Ind., Ariz.

*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Northeastern States.

*Phyllosticta fraxinicola* (F. Currey) Ell. and Ev., leaf-spot. East of Great Plains

*P. viridis* Ell. and Kell., leaf-spot. Widespread.

*Piggotia fraxini* Berk. and Curt., leaf-spot. General.

*Puccinia fraxinata* (Lk.) Arth., rust. General east of Great Plains.

*Ramularia fraxinea* Davis, leaf-spot. Wis.

*Septoria besseyi* Pk., leaf-spot. Wis., Iowa.

*S. fraxini* Desm., leaf-spot. Fla., La., Mich., Minn.

*S. leucostroma* Ell. and Ev., leaf-spot. Mass., Ind.

*S. submaculata* Wint., leaf-spot. Mo., Tex.

**GAILLARDIA.**

***G. aristata*, gaillardia.**

*Bullaria gaillardiae* (Diet. and Holw.) Arth. and E. B. Mains (*Uredo gaillardiae* Diet. and Holw.), rust. Calif.

*Erysiphe cichoracearum* DC., powdery mildew. Mont.

***G. pulchella*, rose ring gaillardia.**

*Entyloma polysporum* (Pk.) Farl., smut. Nebr., Kans.

*Septoria gaillardiae* Ell. and Ev., leaf-spot. Kans.

**GARDENIA.**

***G. florida*, Cape-jasmine.**

*Heterodera radicicola* (Greef) Muell., root-knot. Tex., Calif. (greenhouse).

**GARRYA.**

***G. elliptica*, silktassel-bush.**

*Cercospora garryae* Hark., leaf-spot. Calif.

*C. glomerata* Hark., leaf-spot. Calif.

*Phyllosticta garryae* Cke. and Hark., leaf-spot. Calif.

**GAULTHERIA.**

*G. shallon*, salal.

*Phyllosticta gaultheriae* Ell. and Ev., leaf-spot. Pacific coast.

**GAYLUSSACIA.**

*Gaylussacia* sp., huckleberry.

*Exobasidium vaccinii* (Fckl.) Wor., hypertrophy. Atlantic Coast States; Mich., Wis.

*Guignardia vaccinii* Shear, scald. Md.

*Microsphaera alni vaccinii* (Schw.) Salm., powdery mildew. Mass., N. J., Md., Ill., Wis.

*Pucciniastrum myrtilli* (Schum.) Arth., rust. Mass., Conn., N. Y., Pa., Va.

*Rhytisma vaccinii* Fr., tar-spot. Mass.

*Synchytrium vaccinii* F. Thomas, red-gall. N. J.

**GELSEMIUM.**

***G. sempervirens*, Carolina-jessamine.**

*Phyllosticta gelsemii* Ell. and Ev., leaf-spot. N. J.

**GLADIOLUS.**

***Gladiolus* sp., gladiolus.**

*Alternaria fasciculata* (Cke. and Ell.) L. R. Jones and A. J. Grout. Pa.

*Bacterium gummisudans* McC., bacterial blight. Mich., Minn., N. Dak.

*B. marginatum* McC. (*Phytomonas marginata* (McC.) Com. S. A. B.), stem-rot, scab. Widely distributed.

*Corticium vagum* Berk. and Curt., root-rot. N. Dak.

*Didymellina iridis* (Desm.) Hoehn., leaf-spot. Md.

*Fusarium* sp., rot. Widely distributed.

*Phyllosticta gladioli* Ell. and Ev., leaf-spot. Ala.

*Sclerotium* sp., dry-rot. Widespread.

*Septoria gladioli* Pass., hard-rot, leaf-spot. General wherever host is grown.

**GLEDITSIA.**

*G. triacanthos*, honeylocust.

*Cercospora condensata* Ell. and Kell., leaf-spot. Ill., Kans.
*C. olivacea* (Berk. and Rav.) Ell., leaf-spot. Ala., Miss., Ill., Iowa.
*Cladosporium gleditschiae* Cke. S. C.
*Fomes applanatus* (Pers.) Wallr. (*Ganoderma applanatum* (Pers.) Pat.), white-streaked rot. N. Y.
*Melasmia hypophylla* (Berk. and Rav.) Sacc., leaf-spot. Widespread east of Great Plains.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. General east of Great Plains.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Ind., Tex.
*Polyporus sulphureus* (Bull.) Fr., brown-checked wood-rot.
*Ravenelia opaca* Diet., rust. Ill.

**GORDONIA.**

*G. lasianthus*, loblolly-bay.

*Phyllosticta gordoniae* Ell. and Mart., leaf-spot. Fla.

**GOSSYPIUM.**

*G. hirsutum*, Upland cotton, *G. barbadense*, Sea Island cotton.

*Alternaria* sp., leaf-spot. S. C.
*Ascochyta gossypii* Syd., blight. Va., N. C., S. C., Ark.
*Bacterium malvacearum* EFS. (*Phytomonas malvaceara* (EFS.) Com. S. A. B.), angular leaf-spot. General in Cotton Belt States; Ariz.
*Cercospora althaeina* Sacc., leaf-spot. Ill.
*Cerotelium gossypii* (Lagh.) Arth. (*Uredo gossypii* Lagh.), rust. Fla.
*Corticium vagum* Berk. and Curt., stem-rot, sore-shin. Cotton Belt States; Ariz.
*Diplodia gossypina* Cke., boll-rot. General in Cotton Belt States.
*Fusarium* spp., boll-rot. General in Cotton Belt States during wet seasons.
*F. vasinfectum* Atk., wilt. General in sandy soils of Cotton Belt States.
*Glomerella gossypii* (E. A. Southworth) Edg., anthracnose. Cotton Belt States.
*Heterodera radicicola* (Greef) Muell., root-knot. General in sandy soils in Cotton Belt States.
*Macrosporium nigricantium* Atk., black leaf-spot. Cotton Belt States; Ariz.
*Mycosphaerella gossypina* (Cke.) Earle, leaf-spot. General in Cotton Belt States.
*Olpitrichum carpophilum* Atk., boll-rot. N. C., S. C., Ala., La.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex., Okla., N. Mex., Ariz., Calif.
*Phlyctaena gossypii* Sacc., leaf-spot. S. C., Ala.
*Phyllosticta gossypina* Ell. and Mart., leaf-spot. N. C., S. C., Ala., Miss., Ill.
*Puccinia hibisciata* (Schw.) Kell. (*Aecidium gossypii* Ell. and Ev.), rust. Tex., Ariz., Calif.
*Pythium debaryanum* Hesse, damping-off. Ala.
*Ramularia areola* Atk., frosty mildew. Cotton Belt States; Fla.
*Septoria gossypina* Cke., leaf-spot. S. C., Miss.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. Ala.
*Tylenchus penetrans* Cobb, nematode. N. C., Ga.
*Verticillium alboatrum* Reinke and Berth., wilt. Va.
Malnutrition, "rust," nonpar. Poorer soils, Cotton Belt States.

**GYMNOCLADUS.**

*G. dioicus*, Kentucky coffeetree.

*Cercospora gymnocladi* Ell. and Kell., leaf-spot. Ill., Nebr., Kans., Mo.
*Marssonia* sp., leaf-spot. Nebr.

**HAMAMELIS.**

*H. virginiana*, witch-hazel.

*Cercospora hamamelidis* Ell. and Ev., leaf-spot. Fla.
*Gonatobotryum maculicolum* (Wint.) Sacc., leaf-spot. N. Y.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Wis.

**HAMAMELIS**—Continued.

*H. virginiana*, witch-hazel—Continued.

*Phyllosticta hamamelidis* Cke., leaf-spot. General east of Miss. River.
*Podosphaera biuncinata* Cke. and Pk., powdery mildew. General east of Miss. River.
*Ramularia hamamelidis* Pk., leaf-spot. N. Y., W. Va., Mich., Ill., Wis.

**HEDERA.**

*H. helix*, English ivy.

*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose. Conn., Md., N. C., Tex.
*Phyllosticta concentrica* Sacc., leaf-spot. N. Y., N. J., S. C., Ala., Tex.
*P. hederaecola* Dur. and Mont., leaf-spot. N. Y., N. J.
*Ramularia hedericola* Heald and Wolf, leaf-spot. Tex.
*Vermicularia trichella* Fr., leaf-spot. Mass., S. C., Md., Ohio.

**HELIANTHUS.**

*H. annuus*, sunflower.

*Armillaria mellea* (Vahl) Quel., root-rot. Oreg.
*Botrytis* sp., stem-rot. Oreg., Calif.
*Cercospora pachypus* Ell. and Kell., leaf-spot. Kans., Tex.
*Entyloma polysporum* (Pk.) Farl., smut. Mont.
*Erysiphe cichoracearum* DC., powdery mildew. General.
*Fusarium* sp., damping-off. N. J.
*Heterodera radicicola* (Greef) Muell., root-knot. W. Va., Ala.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Plasmopara halstedii* (Farl.) Berl. and DeToni, downy mildew. Ohio, W, Va., Ind., Iowa, Minn., N. Dak., Kans.
*Puccinia helianthi-mollis* (Schw.) Jack., rust. General.
*Sclerotinia sclerotiorum* (Lib.) Mass., stem-rot. Mich., Wis., Minn., Iowa N. Dak., Mont., Idaho, Wash., Oreg.
*Septoria helianthi* Ell. and Kell., leaf-spot. Widespread.

*H. tuberosus*, Jerusalem-artichoke.

*Cercospora helianthi* Ell. and Ev., leaf-spot. Kans.
*Coleosporium helianthi* (Schw.) Arth., rust. Va., S. C., Ala., Ill.
*Erysiphe cichoracearum* DC., powdery mildew. Northeastern and North-Central States.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Plasmopara halstedii* (Farl.) Berl. and DeToni, downy mildew. Vt., Del., Wis., Iowa, Kans.
*Puccinia helianthi-mollis* (Schw.) Jack., rust. East of Great Plains.
*Sclerotinia* sp., wilt. Wash.
*Sclerotium rolfsii* Sacc., stem-rot. S. C., La.

**HELLEBORUS.**

*H. niger*, Christmas-rose.

*Coniothyrium hellebori* Cke. and Mass. N. Y., Oreg.

**HEMEROCALLIS.**

*H. fulva*, daylily.

*Cercospora hemerocallis* L. R. Tehon, leaf-spot. Ill.
*Didymellina iridis* (Desm.) Hoehn., leaf-spot. N. J.

**HIBISCUS.**

*H. esculentus*, okra, gumbo.

*Ascochyta abelmoschi* Harter, pod-spot. N. Y., Md., S. C.
*Botrytis* sp., rot. N. Y.
*Cercospora althaeina* Sacc., leaf-spot. La.
*C. brachypoda* Speg., leaf-spot. La.
*C. hibisci* Tr. and Earle, leaf-spot. Fla., Ala., La., Miss.
*Corticium vagum* Berk. and Curt., stem-rot. Ala., Tex.
*Erysiphe cichoracearum* DC., powdery mildew. Conn.
*Fusarium vasinfectum* Atk., wilt. Southern States; Conn., Pa., Ariz.
*Heterodera radicicola* (Greef) Muell., root-knot. Southern States.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex., Ariz.

**HIBISCUS**—Continued.

*H. esculentus*, okra, gumbo—Continued.

*Phyllosticta hibiscina* Ell. and Ev., leaf-spot. Ill.

*Verticillium alboatrum* Reinke and Berth., wilt. N. J., S. C., Ala., Oreg., Calif.

*H. syriacus*, *rose-of-Sharon.

*Heterodera radicicola* (Greef) Muell., root-knot. Tex.

*Kuehneola malvicola* (Speg.) Arth., rust. La., Miss.

*Nectria* sp., canker. Ohio.

*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.

*Phyllosticta syriaca* Sacc., leaf-spot. N. Y.

**HICORIA.**

*Hicoria* spp., hickory.

*Armillaria mellea* (Vahl) Quel., root-rot. Ind.

*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Md., Kans.

*Fomes applanatus* (Pers.) Wallr. (*Ganoderma applanatum* (Pers.) Pat.), white-streaked rot. Conn.

*Fusicladium effusum* Wint., scab. Ill., Kans.

*Gnomonia caryae* Wolf, anthracnose. East of Miss. River; Mo.

*Hendersonia davisii* Ell. and Ev., leaf-spot. Wis.

*Marssonia juglandis* (Lib.) Sacc., leaf-spot. N. J., W. Va., Iowa.

*Microsphaera alni* (Wallr.) Wint., powdery mildew. Ala., Miss., Ind., Ill., Mo.

*Microstroma juglandis* (Bereng.) Sacc., witches'-broom. General east of Great Plains.

*Mycosphaerella convexula* (Schw.) F. V. Rand, leaf-spot. S. C., Ga., Fla., Ala., Ohio.

*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Tex., Ind.

*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Wis.

*Phyllosticta caryae* Pk., leaf-spot. Northeastern and North-Central States; Gulf States.

*P. convexula* Bub., leaf-spot. Mo.

*P. subtilis* Pk., leaf-spot. N. Y.

*Rosellinia caryae* L. Bonar, canker. Mich.

*Septoria caryae* Ell. and Ev., leaf-spot. Del.

*S. hicoriae* Tharp, leaf-spot. Tex.

*Strumella coryneoidea* Sacc. and Wint., canker. Pa.

*H. pecan*, pecan.

*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. S. C., Gulf States, Calif.

*Botryosphaeria berengeriana* DeNot., die-back. S. C., Ala., Fla.

*Cercospora fusca* (Heald and Wolf) emend. F. V. Rand, brown leaf-spot. S. C., Gulf States, N. Mex.

*Fusicladium effusum* Wint., scab. N. C. to Okla. and Tex.

*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose. S. C., Gulf States.

*Heterodera radicicola* (Greef) Muell., root-knot.

*Microsphaera alni* (Wallr.) Wint., powdery mildew. S. C., Gulf States.

*Microstroma juglandis* (Bereng.) Sacc., leaf-spot. Ga., Ala., Tex.

*M. juglandis robustum* Hig., flower-blight. Ga.

*Mycosphaerella convexula* (Schw.) F. V. Rand, leaf-blotch. S. C., Ga., Ala., Fla., Ohio.

*Oidium* sp., powdery mildew. Tex.

*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.

*Pestalozzia* sp., leaf-spot. Fla.

*Phoma* sp., twig-blight. Fla.

*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Tex.

*Phyllosticta caryae* Pk., leaf-spot. Va., S. C., Gulf States.

*Septoria caryae* Ell. and Ev., leaf-spot. Tex.

Kernel-spot, southern stinkbug (*Nezara viridula* L.). N. C., S. C., Ga., Fla., Ala., Miss., La., Tex.

Rosette, undet. Del., Va., N. C., S. C., Gulf States; Ark., Calif.

**HOLCUS.**

*H. halepensis*, Johnson grass.

*Cercospora sorghi* Ell. and Ev., leaf-spot. Ala., La., Tex., Nebr.
*Colletotrichum lineola* Cda., anthracnose. Ala., La., Tex.
*Helminthosporium turcicum* Pass., leaf-blight. Ala., Tex.
*Phyllosticta sorghina* Sacc., leaf-spot. Tex.
*Puccinia purpurea* Cke., rust. S. C., Fla., Ala., La., Okla., Tex., Calif.
*Septoria pertusa* Heald and Wolf, leaf-spot. Tex.
*Sphacelotheca sorghi* (Lk.) Clint., smut. Utah, Wash.

*H. sorghum*, sorghum.

*Bacterium andropogoni* EFS., stripe. General.
*Cercospora sorghi* Ell. and Ev., leaf-spot. Ga., Ala., La., Miss.
*Colletotrichum lineola* Cda., anthracnose. Conn., W. Va., N. C., Ga., Fla., Ala., La., Tex., Minn.
*Helminthosporium turcicum* Pass., leaf-blight. Kans., Tex.
*Puccinia purpurea* Cke., rust. Tex., Okla., La., Fla., Calif.
*Sclerotium rolfsii* Sacc., stem-rot. La.
*Sorosporium reilianum* (Kuehn) McAlp., head-smut. General.
*Sphacelotheca cruenta* (Kuehn) Potter, loose kernel smut. Ala., Tex., Ark., N. Mex.
*S. sorghi* (Lk.) Clint., covered kernel smut. General.

**H. sorghum saccharatus*, sorgo, sugar sorghum.

*Bacterium andropogoni* EFS., stripe.
*Colletotrichum lineola* Cda., anthracnose. N. J., Va.
*Phoma insidiosa* F. Tassi, leaf-spot. Tex., Miss., Ark., Kans.
*Puccinia purpurea* Cke., rust. Tex.
*Sphacelotheca sorghi* (Lk.) Clint., covered kernel smut. Colo.

*H. sorghum sudanensis*, Sudan grass.

*Colletotrichum graminicolum* (Ces.) Wils., anthracnose. N. C., Ala., Tex., N. Dak.
*C. lineola* Cda., anthracnose. Ala.
*Helminthosporium turcicum* Pass., leaf-blight. Tex.
*Phoma insidiosa* F. Tassi, leaf-spot. Va.
*Sorosporium reilianum* (Kuehn) McAlp., head-smut. Wash.
*Sphacelotheca sorghi* (Lk.) Clint., covered kernel smut. N. C., Nebr., Kans.

**H. sorghum technicus*, broomcorn.

*Bacterium andropogoni* EFS., stripe.
*Colletotrichum lineola* Cda., anthracnose. Occurs in widely scattered States.
*Sorosporium reilianum* (Kuehn) McAlp., head-smut. Ohio.
*Sphacelotheca cruenta* (Kuehn) Potter, loose kernel smut. Tex.
*S. sorghi* (Lk.) Clint., covered kernel smut. Ohio.

**HOLODISCUS.**

*H. discolor*, *oceanspray.

*Cylindrosporium filipendulae* Thuem., leaf-spot. Wash.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Wash.
*Podosphaera oxyacanthae* (DC.) D By., powdery mildew. Idaho.

**HORDEUM.**

*H. vulgare*, barley.

*Bacterium translucens* L. R. Jones, A. G. Johnson, and C. S. Reddy, bacterial blight. S. C., Tex., Ark., Ind., Wis., Minn., Iowa, N. Dak., S. Dak., Mont., Colo., Idaho, Oreg.
*Claviceps purpurea* (Fr.) Tul., ergot. Infrequent but widely distributed.
*Colletotrichum graminicolum* (Ces.) Wils., anthracnose. General east of Great Plains.
*Erysiphe graminis* DC., powdery mildew. General.
*Fusarium culmorum leteius* Sherb., seedling blight. Oreg., Calif.
*Gibberella saubinetii* (Mont.) Sacc., scab. General east of Great Plains.
*Helminthosporium californicum* W. W. Mackie and G. E. Paxton, rusty blotch. Calif.
*H. gramineum* Rabh., stripe. General.
*H. sativum* Pam., King, and Bak., spot-blotch. General.
*Marasmius tritici* P. A. Young. Ill.
*Ophiobolus graminis* Sacc., take-all, foot-rot. Calif.

**HORDEUM**—Continued.

*H. vulgare*, barley—Continued.

*Puccinia anomala* Rostr., leaf-rust. General.
*P. glumarum* (Schm.) Eriks. and Henn., stripe-rust. West of Great Plains.
*P. graminis* Pers., stem-rust. General.
*Pyrenophora teres* (Died.) Drechs., net-blotch. General.
*Rhizoctonia* sp., foot-rot. Wash.
*Rhynchosporium secalis* (Oud.) Davis, scald. Upper Miss. Valley; Pacific Northwest; Calif.
*Septoria passerinii* Sacc., leaf-spot. Mich., Minn., Iowa, N. Dak., S. Dak., Idaho, Oreg.
*Ustilago hordei* (Pers.) Kell. and Sw., covered smut. General.
*U. nuda* (Jens.) Kell. and Sw., loose smut. General.

**HUMULUS.**

*H. lupulus*, hop.

*Armillaria mellea* (Vahl) Quel., root-rot. Oreg.
*Colletotrichum* sp., anthracnose. N. Y.
*Cylindrosporium humuli* Ell. and Ev., leaf-spot. N. Y., N. J., Del., Mich., Wis., Iowa.
*Erysiphe cichoracearum* DC., powdery mildew. Utah.
*Phyllosticta decidua* Ell. and Kell., leaf-spot. Wis.
*P. humuli* Sacc. and Speg., leaf-spot. Mass., Iowa.
*Plasmopara humuli* Miyabe and Tak., downy mildew. Wis.
*Septoria lupulina* Ell. and Kell., leaf-spot. Kans.
*Sphaerotheca humuli* (DC.) Burr., powdery mildew. Me., N. Y., Ala., Wyo., Pacific coast.

**HYACINTHUS.**

*H. orientalis*, common hyacinth.

*Bacterium hyacinthi* J. H. Wakker (*Phytomonas hyacinthi* (Wakker) Com. S. A. B.), yellow disease. Mass.
*Fusarium* sp., bulb-rot (dry). Mo., Wash.
*F. bulbigenum* Cke. and Mass., bulb-rot. R. I.
*Tylenchus dipsaci* (Kuehn) Bast., stem and bulb nematode. Wash.
Mosaic, gray disease, undet. Wash.

**HYDRANGEA.**

*Hydrangea* sp., hydrangea.

*Ascochyta* sp., leaf-spot. Pa.
*Botrytis cinerea* Auct., blight. Wash.
*Cercospora hydrangeana* Tharp, leaf-spot. Ala., Tex.
*Heterodera radicicola* (Greef) Muell., root-knot. Miss.
*Phyllosticta hydrangeae* Ell. and Ev., leaf-spot. N. J., Ala., Ind.
*Pucciniastrum hydrangeae* (Berk. and Curt.) Arth., rust. Frequent east of Miss. River.
*Septoria hydrangeae* Bizz., leaf-spot. Miss.

**HYDRASTIS.**

*H. canadensis*, goldenseal.

*Botrytis* sp., stem-rot. Conn., N. Y., Ind., Mich., Wis., Wash.
*Fusarium* sp., wilt. N. Y., Ohio, Ill.
*Heterodera radicicola* (Greef) Muell., root-knot. Ohio.

**ILEX.**

*Ilex* spp., holly, winterberry.

*Cercospora ilicis* Ell., leaf-spot. N. J., Ala., Miss.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Ala., Ill., Wis.
*Phyllosticta concomitans* Ell. and Ev., leaf-spot. La.
*P. haynaldi* Roum. and Sacc., leaf-spot. W. Va.
*P. ilicicola* (Cke. and Ell.) Ell. and Ev., leaf-spot. N. Y.
*P. opaca* Ell. and Ev., leaf-spot. W. Va.
*P. terminalis* Ell. and Mart., leaf-spot. Fla.
*Ramularia alaterni* Thuem., leaf-spot. Mich.
*R. prinos* Pk., leaf-spot. N. Y., Wis.
*Rhytisma concavum* Ell. and Kell., tar-spot. Ohio.
*R. ilicicolum* Schw., tar-spot. Va., Miss.

**ILEX**—Continued.

*Ilex* spp., holly, winterberry—Continued.

*R. ilicis-canadensis* Schw., tar-spot. Me., Mich., Ind.
*R. velatum* (Schw.) Fr., tar-spot. Miss.
*Septoria ilicifolia* Cke. and Ell., leaf-spot. N. J.

*I. opaca,* American holly.

*Cercospora ilicicola* Maub., leaf-spot. Tex.
*C. pulvinula* Cke. and Ell., leaf-spot. N. J., Tex.
*Diplodia* sp., foot-rot. Fla.
*Melampsoropsis ilicinum* (Ell. and Ev.) Jack., rust.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Ill.
*Phyllosticta ilicicola* (Cke. and Ell.) Ell. and Ev., leaf-spot. N. Y., N. J.
*P. opaca* Ell. and Ev., leaf-spot. W. Va., S. C.
*P. terminalis* Ell. and Mart., leaf-spot. Miss.
*Rhytisma curtisii* Berk. and Rav., tar-spot. Md., S. C., Ala., Tex.
*R. ilicis-canadensis* Schw., tar-spot. W. Va.

**IPOMOEA.**

*I. batatas,* sweetpotato.

*Albugo ipomoeae-panduranae* (Schw.) Sw., white-rust. General where sweetpotatoes are grown.
*Botrytis cinerea* Auct., gray-mold rot. N. J.
*Coleosporium ipomoeae* (Schw.) Burr., rust. Miss.
*Corticium vagum* Berk. and Curt., stem-rot. Frequent in sweetpotato States.
*Cystospora batata* (Ell. and Hals.) J. A. Elliott, soil rot, pox. Middle Atlantic and Gulf States, Ohio, Kans., Ark., Okla.
*Diaporthe batatatis* (Ell. and Hals.) Harter and E. Field, dry-rot. N. J. to Kans. and Tex.
*Diplodia tubericola* (Ell. and Ev.) Taub., Java black-rot. General, Del. to Kans., Ga., Tex.
*Fusarium batatatis* Woll. and *F. hyperoxysporum* Woll., stem-rot. General in sweetpotato States.
*F. oxysporum* Schl., surface rot. N. J., Ala., Miss.
*Heterodera radicicola* (Greef) Muell., root-knot. Southern States, Calif.
*Monilochaetes infuscans* Ell. and Hals., scurf. General.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phyllosticta batatas* (Thuem.) Cke., leaf-spot. N. J. and Ohio to Kans. and Tex.
*Plenodomus destruens* Harter, foot-rot. N. J. to Iowa and southward, Calif.
*Pythium* sp., rootlet rot. N. Y., Del., Md., Va. and in States south and west.
*Rhizopus nigricans* Ehr., soft-rot, ring-rot. General as a storage rot.
*Sclerotinia* sp., damping-off. N. J.
*Sclerotium bataticola* Taub., charcoal rot. Frequent throughout country as a storage rot.
*S. rolfsii* Sacc., stem-rot. S. C. to Tex.
*Septoria bataticola* Taub., leaf-spot. Iowa to Tex. and eastward.
*Sphaeronema fimbriatum* (Ell. and Hals.) Sacc., black-rot. General in all sweetpotato States.
*Trichoderma koningi* Oud., storage rot. N. J., Del.
Mosaic, undet. Fla., Miss., Ark., Tex., Kans.
Mottle-necrosis (associated with *Pythium* sp.). N. J., D. C.

*I. purpurea,* morning-glory.

*Albugo ipomoeae-panduranae* (Schw.) Sw., white-rust. Del., Va., W. Va., Ga., Ala., Miss., Kans.
*Cercospora alabamensis* Atk., leaf-spot. Ala.
*C. ipomoeae* Wint., leaf-spot. Ala.
*C. viridula* Ell. and Ev., leaf-spot. N. J., N. C., Nebr.
*Coleosporium ipomoeae* (Schw.) Burr., rust. Miss. Valley States, Ala., Tex.
*Heterodera radiciola* (Greef) Muell., root-knot.
*Puccinia crassipes* Berk. and Curt., rust. Okla.

**IRIS.**

*Iris* sp., iris.

*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. Conn., N. Y., N. J., Ohio, Ind., Mich., Minn.
*Cylindrosporium iridis* Ell. and Hals., leaf-spot. Ind., Iowa.
*Didymellina iridis* (Desm.) Hoehn., leaf-spot. Widespread in northern two-thirds of United States.
*Macrosporium iridicolum* Ell. and Ev., leaf-spot. Idaho.
*M. iridis* Cke. and Ell., leaf-spot. Ala., Ohio, Mont.
*Pseudomonas iridis* Van Hall, rhizome rot. S. Dak.
*Puccinia iridis* (DC.) Rabh., rust. Conn., N. Y., Mich., Colo., Pacific coast.
*Sclerotinia sclerotiorum* (Lib.) Mass., stem-rot. Wash.
*Sclerotium rolfsii* Sacc., crown-rot. Md., Ind., Miss., Calif.
*Scolecotrichum iridis* Fautr. and Roum., leaf-spot. Miss., Minn.
*S. punctulatum* Tr. and Earle, leaf-spot. Miss.
*Septoria* sp., leaf-spot. N. Dak.

*I. versicolor*, blueflag iris.

*Cylindrosporium iridis* Ell. and Hals., leaf-spot. Ind.
*Didymellina iridis* (Desm.) Hoehn., leaf-spot. Ind.
*Phyllosticta iridis* Ell. and Mart., leaf-spot. N. Y., Fla., Ohio, Mich.
*Puccinia iridis* (DC.) Rabh., rust. Northeastern States.
*P. majanthae* (Schum.) Arth. and Holw., rust. Mass., N. Y., Ind., Mich., Wis., Minn., Iowa, Nebr.

**JUGLANS.**

*J. cinerea*, butternut.

*Cercospora juglandis* Kell. and Sw., leaf-spot. Mass.
*Fomes igniarius* (L.) Fr., white heart-rot. Vt., N. J.
*Gnomonia leptostyla* (Fr.) Ces. and DeNot., anthracnose. General throughout range of host.
*Melanconis juglandis* (Ell. and Ev.) A. H. Graves, canker. East of Miss. River; Wis., Iowa.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Ill.
*Microstroma juglandis* (Bereng.) Sacc., leaf-spot. General over range of host.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Ind.
*Polyporus sulphureus* (Bull.) Fr., brown-checked wood-rot.

*J. hindsii*, Hinds walnut.

*Cylindrosporium juglandis* Wolf, leaf-spot. Calif.
*Microstroma juglandis* (Bereng.) Sacc., leaf-spot. Calif.

*J. nigra*, black walnut.

*Armillaria mellea* (Vahl) Quel., root-rot. Oreg.
*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Kans., Calif.
*Cercospora juglandis* Kell. and Sw., leaf-spot. Kans.
*Fomes everhartii* (Ell. and Gall.) Schrenk, heart-rot.
*F. igniarius* (L.) Fr., white heart-rot. Ohio.
*Gnomonia leptostyla* (Fr.) Ces. and DeNot., anthracnose. General throughout range of host.
*Melanconis juglandis* (Ell. and Ev.) A. H. Graves, canker. N. Y.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Ind., Ill., Kans., Miss.
*Microstroma juglandis* (Bereng.) Sacc., leaf-spot. Del., Md., N. C., Ohio, Ill., Mo., Kans.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Ind.
*Phleospora multimaculans* Heald and Wolf, leaf-spot. Tex.
*Polyporus sulphureus* (Bull.) Fr., brown-checked wood-rot.
*Septoria juglandis* Berk. and Curt., leaf-spot. Pa., N. C.

*J. regia*, Persian walnut (English walnut).

*Armillaria mellea* (Vahl) Quel., root-rot. Oreg., Calif.
*Bacterium juglandis* (N. B. Pierce) EFS., bacterial blight. N. Y., Del., Va., Pacific coast.
*B. tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Pacific coast.

**JUGLANS**—Continued.

*J. regia*, Persian walnut (English walnut)—Continued.

*Cylindrosporium* sp., leaf-spot. Ala.
*C. juglandis* Wolf, leaf-spot. N. C.
*Dothiorella gregaria* Sacc., melaxuma. Calif.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose. Md.
*Melanconis juglandis* (Ell. and Ev.) A. H. Graves, canker. Conn., N. J.
*Microstroma juglandis* (Bereng.) Sacc., leaf-spot. Conn., Calif.
*Sphaeropsis* sp., canker. Conn.

*J. sieboldiana*, Japanese walnut.

*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Pa.
*Melanconis juglandis* (Ell. and Ev.) A. H. Graves, canker. Conn., N. Y., N. J.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.

**JUNIPERUS.**

*Juniperus* spp., juniper, redcedar.

*Cercospora sequoiae juniperi* Ell. and Ev., leaf-spot. Wis.
*Cyanospora albicedrae* Heald and Wolf, whitening. Tex. (*J. montana*).
*Fomes earlei* (Murr.) Sacc. and D. Sacc., yellow pocket rot. Tex., Colo., N. Mex., Ariz.
*F. juniperinus* Schrenk, white pocket rot. Central States.
*F. roseus* (Alb. and Schw.) Fr., brown pocket rot. Fla., Ala.
*F. texanus* (Murr.) Hedgc. and Long, brown fibrous rot. Tex., N. Mex., Ariz.
*Gymnosporangium bermudianum* (Farl.) Earle, rust. Ala., Miss.
*G. betheli* Kern, rust. N. Dak., Mont., Colo., N. Mex.
*G. clavariaeforme* (Jacq.) DC., rust. East of Great Plains.
*G. corniculans* Kern, rust. Mich., Wis.
*G. cornutum* (Pers.) Arth., rust. Mich., Colo.
*G. davisii* Kern, rust. Me., Wis.
*G. exiguum* Kern, cedar rust. Tex.
*G. germinale* (Schw.) Kern., rust. Eastern States.
*G. globosum* Farl., rust. Eastern States.
*G. gracilens* (Pk.) Kern and Bethel, rust. Colo., Utah, N. Mex., Ariz., Nev.
*G. harknessianum* (Ell. and Ev.) Kern, rust. Oreg.
*G. inconspicuum* Kern, rust. Colo., Utah.
*G. japonicum* Syd., rust. Conn., Mass., Oreg.
*G. juniperinum* (L.) C. Martius, rust. Iowa, Colo., Utah, Wash.
*G. juniperi-virginianae* Schw., rust. East of Great Plains.
*G. juvenescens* Kern, rust. Mont., Colo., Utah, N. Mex., Idaho.
*G. kernianum* Bethel, rust. Colo., N. Mex., Utah, Idaho.
*G. multiporum* Kern, rust. Colo.
*G. nelsoni* Arth., rust. Northern Rocky Mt. States.
*G. nidus-avis* Thax., rust. Mass., N. Y., Nebr.
*G. trachysorum* Kern, rust. Fla.
*G. tubulatum* Kern, rust. Mont.
*Herpotrichia nigra* Hartig, matting. Colo. (*J. sibirica* and *J. communis*).
*Lophodermium juniperinum* (Fr.) DeNot., leaf-cast. Iowa, Colo.
*Phomopsis juniperovora* G. Hahn, nursery blight. Pa., Ohio, Ill., Mo., Iowa, Nebr., Kans.
*Phoradendron juniperinum* Engelm., mistletoe. Southwestern and Western States.

*J. virginiana*, redcedar.

*Cercospora sequoiae juniperi* Ell. and Ev., leaf-spot. Wis.
*Fomes annosus* Fr., white spongy rot. Del.
*F. juniperinus* Schrenk, white pocket rot. Md.
*F. roseus* (Alb. and Schw.) Fr., brown pocket rot. General.
*Gymnosporangium bermudianum* (Farl.) Earle, rust. Fla., La., Miss.
*G. corniculans* Kern, rust. N. Y.
*G. effusum* Kern, rust. N. Y., N. J., S. C., Va.
*G. exiguum* Kern, rust. Tex.
*G. exterum* Arth. and Kern, rust. Ky.
*G. floriforme* Thax., rust. Gulf States.

**JUNIPERUS**—Continued.

*J. virginiana*, redcedar—Continued.

*G. germinale* (Schw.) Kern, rust. General east of Great Plains.
*G. globosum* Farl., rust. General east of Great Plains.
*G. juniperi-virginianae* Schw., rust. General east of Great Plains.
*G. juvenescens* Kern, rust. Wis., Nebr.
*G. nidus-avis* Thax., rust. General east of Miss. River.
*G. trachysorum* Kern, rust. S. C., Fla., Miss.
*Phomopsis juniperovora* G. Hahn, nursery blight. N. Y. to Kans.
*Poria purpurea* Fr., brown laminated rot. Iowa.

**KALMIA.**

*K. latifolia*, mountain-laurel.

*Cercospora kalmiae* Ell. and Ev., leaf-spot. Conn., Pa., W. Va.
*C. sparsa* Cke., leaf-spot. S. C., Miss.
*Mycosphaerella colorata* (Pk.) Earle, leaf-spot. N. Y., Pa., Ala.
*Pestalozzia kalmicola* Ell. and Ev., leaf-spot. N. J., Del.
*Phomopsis kalmiae* Enlows, leaf-blight. D. C.
*Phyllosticta kalmicola* (Schw.) Ell. and Ev., leaf-spot. N. Y., N. J., Pa., Del., Md., Miss.
*P. latifolia* Ell. and Ev., leaf-spot. N. J., Del., Miss.
*Septoria angustifolia* Ell. and Ev., leaf-spot. Atlantic Coast States; Ohio.
*Venturia kalmiae* Pk., leaf-spot. N. Y.

**KERRIA.**

*K. japonica*, kerria.

*Coccomyces kerriae* V. B. Stewart, twig and leaf blight. Conn., Del., Ala., Ky.
*Cylindrosporium* sp., leaf-spot. Md.
*Septoria* sp., leaf-spot. N. J., Md.

**LACTUCA.**

*L. sativa*, lettuce.

*Alternaria* sp., leaf-spot. Ohio, Fla., La., Wash.
*Aplanobacter rhizoctonia* R. C. Thomas, bacterial rosette. Ohio.
*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. General.
*Bacterium marginale* N. A. Brown (*Phytomonas marginale* (Brown) Com. S. A. B.), leaf-spot. N. J., Kans.
*B. viridilividum* N. A. Brown (*Phytomonas viridilivida* (Brown) Com. S. A. B.), lettuce rot. Va., La., Mich.
*B. vitians* N. A. Brown (*Phytomonas vitians* (Brown) Com. S. A. B.), bacterial wilt. N. J., Va., S. C., N. Mex.
*Botrytis cinerea* Auct., gray-mold rot. General.
*Bremia lactucae* E. Regel, downy mildew. General.
*Corticium vagum* Berk. and Curt., bottom rot. General.
*Heterodera radicicola* (Greef) Muell., root-knot. Southern States.
*Macrosporium cladosporioides* Desm., leaf-spot. Fla.
*Marssonina panattoniana* (Berl.) Magn., anthracnose. N. Y., N. C., Ohio, Mich., Kans., Utah, Oreg., Wash.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex., Ariz.
*Puccinia hieraciata* (Schw.) Jack., rust. Minn., Ind.
*Pythium debaryanum* Hesse, damping-off. Conn., N. Y., Pa., Fla., Ohio, Mich.
*Sclerotinia minor* I. C. Jagger, drop, pink-rot. Mass., N. Y., Pa., Fla.
*S. sclerotiorum* (Lib.) Mass., drop. General.
*Sclerotium rolfsii* Sacc., stem-rot. Fla.
*Septoria lactucae* Pass., leaf-spot. East of Great Plains.
Mosaic, undet. Conn., N. Y., Pa., S. C., Fla., Minn.
Rio Grande disease (rabbit-ear, white-heart), undet. N. Y., Miss., La., Tex., Ill.
Tipburn, nonpar. Widespread.

**LAGERSTROEMIA.**

*L. indica*, crapemyrtle.

*Cercospora lythracearum* Heald and Wolf, leaf-spot. Tex.
*Phyllosticta lagerstroemiae* Ell. and Ev., leaf-spot. La., Tex.
Powdery mildew, undet. S. C., Ga., Ala., La.

**LARIX.**

*L. europaea*, European larch.

*Melampsora bigelowii* Thuem., rust. N. Y., Ind.
*M. medusae* Thuem., rust. Ind.

*L. laricina*, American larch, or tamarack.

*Fomes officinalis* Fr., reddish brown-rot. Wis.
*F. pinicola* Fr., brown crumbly rot. General with host.
*Melampsora bigelowii* Thuem., rust. N. Y., Wis.
*M. medusae* Thuem., rust. N. Y., Mich., Ind.
*Melampsoridium betulae* (Schum.) Arth., rust. Wis.
*Polyporus schweinitzii* Fr., red-brown butt-rot.
*Razoumofskya laricis* Piper, mistletoe witches'-broom. Idaho.
*R. pusilla* (Pk.) O. Kuntze, mistletoe. Northern States.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Minn.

*L. occidentalis*, western larch.

*Botrytis* sp., seedling twig-blight. Idaho.
*Fomes officinalis* Fr., reddish brown-rot. Mont., Idaho.
*F. pinicola* Fr., brown crumbly rot. Idaho.
*F. roseus* (Alb. and Schw.) Fr., brown pocket rot. General with host.
*Hypodermella laricis* Tub., leaf-cast. Mont., Idaho, Oreg.
*Lophodermium laricinum* Duby, leaf-cast. Idaho, Wash.
*Melampsora bigelowii* Thuem., rust. Idaho.
*Polyporus berkeleyi* Fr., string and ray rot. Idaho.
*P. schweinitzii* Fr., red-brown butt-rot. Idaho.
*P. sulphureus* (Bull.) Fr., brown-checked wood-rot. Idaho.
*Razoumofskya laricis* Piper, mistletoe witches'-broom. Mont., Pacific Northwest.
*Rhizina inflata* (Schaeff.) Sacc., seedling blight. Idaho.
*Sparassis radicata* Weir, yellow root-rot. Mont., Pacific Northwest.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Idaho.

**LATHYRUS.**

*L. odoratus*, sweet pea.

*Bacillus lathyri* Manns and Taub., streak. Mass., N. Y., Pa., Del.
*Colletotrichum pisi* Pat., anthracnose. S. C., Ga.
*Corticium vagum* Berk. and Curt., stem-rot. Widespread.
*Erysiphe polygoni* DC., powdery mildew. General.
*Fusarium lathyri* Taub., wilt, stem-rot. Conn., Mass., N. Y., Va., Fla., Ind., N. Dak.
*F. martii pisi* F. R. Jones, root-rot. N. Y.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose. Occurs scatteringly east of Great Plains.
*Heterodera radicicola* (Greef) Muell., root-knot.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. General.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Va.
*Phytophthora cactorum* (Leb. and Cohn) Schroet., root-rot. Conn.
*Pythium debaryanum* Hesse, root-rot. Conn.
*Sclerotinia sclerotiorum* (Lib.) Mass., stem-rot, collar rot. Pa.
*Sclerotium rolfsii* Sacc., stem-rot. Fla.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. Conn., N. Y., Pa., Del., Ohio, Calif.
Mosaic, undet. Atlantic coast; Ohio, Wis., N. Méx.

**LAVATERA.**

*Lavatera* sp., treemallow.

*Colletotrichum malvarum* A. Braun and Casp., anthracnose. Calif.
*Puccinia malvacearum* Bertero, rust. Calif.

**LESPEDEZA.**

**L. striata*, Japan clover.

*Heterodera radicicola* (Greef) Muell., root-knot. Ala.
*Microsphaera diffusa* Cke. and Pk., powdery mildew. S. C., Ala., Miss.

**LIBOCEDRUS.**

*L. decurrens*, incense-cedar.

*Gymnosporangium blasdaleanum* (Diet. and Holw.) Kern, rust. Oreg., Calif.
*Herpotrichia nigra* Hartig, matting. Calif.
*Phoradendron juniperinum libocedri* Engelm., mistletoe. Nev., Oreg., Calif.
*Polyporus amarus* Hedgc., pecky heartwood rot. Oreg., Calif.

**LIGUSTRUM.**

*Ligustrum* sp., privet.

*Armillaria mellea* (Vahl) Quel., root-rot. Miss.
*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Miss.
*Cercospora adusta* Heald and Wolf, leaf-spot. Tex.
*C. ligustri* Roum., leaf-spot. Miss.
*Exosporium concentricum* Heald and Wolf, leaf-spot. Tex.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose. Widespread east of Great Plains.
*Heterodera radicicola* (Greef) Muell., root-knot. Miss.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phyllosticta ovalifolii* Brun., leaf-spot. Tex.

**LILIUM.**

*Lilium* spp., lily (mostly native species).

*Corticium vagum* Berk. and Curt., stem-rot. Mich.
*Uromyces holwayi* Lagh., rust. Widespread.

*L. longiflorum*, Easter lily.

*Botrytis cinerea* Auct., gray-mold. Fla.
*Cercospora unicolor* Sacc. and Penz., leaf-spot. Fla.
*Fusarium* sp., wilt. Fla.
*Sclerotinia sclerotiorum* (Lib.) Mass., wilt. Fla.

**LINUM.**

*L. usitatissimum*, flax.

*Alternaria* sp., boll disease. Minn., N. Dak.
*Colletotrichum linicolum* Peth. and Laf., anthracnose. Mich., Minn., N. Dak., Mont.
*Fusarium lini* H. L. Bolley, wilt. General in States where flax is grown.
*Heterodera radicicola* (Greef) Muell., root-knot.
*Macrosporium* sp., blight. N. Dak.
*Melampsora lini* (Schum.) Desm., rust. General.
*Phlyctaena linicola* Speg., pasmo. Mich., Wis., Minn., N. Dak., S. Dak.
*Rhizoctonia* sp., root-rot. Minn., N. Dak.
Heat canker, nonpar. Wis., Minn., N. Dak., S. Dak., Mont., Idaho.

**LIQUIDAMBAR.**

*L. styraciflua*, sweetgum.

*Cercospora liquidambaris* Cke. and Ell., leaf-spot. Md., Ga., Gulf States.
*C. tuberculans* Ell. and Ev., leaf-spot. La., Miss., Mo.
*Hymenochaete agglutinans* Ell., twig-blight.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Ohio, Tex.
*Septoria liquidambaris* Cke. and Ell., leaf-spot. Mass., N. J., Ga.
*Stereum subpileatum* Berk. and Curt., honeycomb heart-rot. Fla.

**LIRIODENDRON.**

*L. tulipifera*, tuliptree.

*Cercospora liriodendri* Ell. and Hark., leaf-spot. Middle Atlantic States, Gulf States.
*Cylindrosporium cercosporoides* Ell. and Ev., leaf-spot. Md.
*Erysiphe polygoni* DC., powdery mildew. General over range of host.
*Gloeosporium liriodendri* Ell. and Ev., anthracnose. Conn., Del., Tex., Ohio.
*Myxosporium longisporium* Edg., twig canker. N. Y.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. N. Y., Ala., Ind., Ill.

**LIRIODENDRON**—Continued.

*L. tulipifera*, tuliptree—Continued.

*Phyllosticta liriodendrica* Sacc., leaf-spot. General over range of host.
*Polyporus sulphureus* (Bull.) Fr., brown-checked wood-rot.
*Rhytisma liriodendri* Wallr., tar-spot. Ohio.
*Verticillium* sp., canker. Ohio.

**LOLIUM.**

*L. multiflorum*, Italian ryegrass.

*Claviceps purpurea* (Fr.) Tul., ergot. Wash., Oreg.
*Colletotrichum* sp., anthracnose. Wash.
*Helminthosporium siccans* Drechs., leaf-spot. Md., Va.

*L. perenne*, perennial ryegrass.

*Claviceps purpurea* (Fr.) Tul., ergot. Va., W. Va., S. Dak., Nebr., Kans., Idaho, Calif.
*Colletotrichum graminicolum* (Ces.) Wils., anthracnose. Pa.
*Gibberella* sp., root-rot. Pa.
*Helminthosporium siccans* Drechs., leaf-spot. Md., Va.
*Puccinia coronata* Cda., rust. Pacific coast.
*P. glumarum* (Schm.) Eriks. and Henn., stripe-rust. Wash., Oreg.
*P. graminis* Pers., stem-rust. Minn.

**LONICERA.**

*Lonicera* spp., honeysuckle.

*Bacterium tumefaciens* EFS. and Town., crown-gall. Conn.
*Cercospora antipus* Ell. and Holw., leaf-spot. Iowa, Nebr.
*C. varia* Pk., leaf-spot. Tex.
*Fusarium* sp., stem-blight. Ohio.
*Gloeosporium lonicerae* Hark., leaf-spot. Calif.
*Leptothyrium periclymeni* (Desm.) Sacc. Wis., Idaho.
*Marssonia lonicerae* Hark., leaf-spot. Colo.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Frequent in northern half of United States.
*Puccinia festucae* Plow., rust. Iowa.

**LUPINUS.**

*L. perennis*, sun-dial lupine.

*Ascochyta pisi* Lib. (*Mycosphaerella pinodes* (Berk. and Blox.) R. E. Stone), leaf-spot.
*Cercospora filispora* Pk., leaf-spot. N. Y.
*C. longispora* Pk., leaf-spot. N. Y.
*Erysiphe polygoni* DC., powdery mildew. Mass., N. Y., N. J., Md., Ohio, Ill., Mich.
*Sclerotinia sclerotiorum* (Lib.) Mass., stem-rot. N. Y.

*L. polyphyllus*, Washington lupine.

*Uromyces lupini* Berk. and Curt., rust. Wash.

**LYCOPERSICUM.**

*L. esculentum*, tomato.

*Alternaria* sp. (not *A. solani* nor *M. tomato*), leaf-spot. Calif.
*A. solani* (Ell. and Mart.) L. R. Jones and A. J. Grout, early-blight. General east of Great Plains; nailhead spot especially in Southern States.
*Aplanobacter michiganense* EFS. (*Phytomonas michiganense* (EFS.) Com. S. A. B.), bacterial canker (Grand Rapids disease). Mass., Conn., N. J., Pa., Ga., Ohio, Ind., Mich.
*Ascochyta lycopersici* Brun. (*Didymella lycopersici* Kleb., *Diplodina destructiva* (Plow.) Petr.), leaf-spot. N. J.
*Bacillus aroideae* Town. (*Erwinia aroidea* (Town.) Com. S. A. B.), soft-rot. Va.
*B. carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. N. J., Fla.
*Bacterium solanacearum* EFS. (*Phytomonas solanaceara* (EFS.) Com. S. A. B.), bacterial wilt. For the most part east of Great Plains and south of Missouri and Ohio Rivers.

**LYCOPERSICUM**—Continued.

*L. esculentum*, tomato—Continued.

*B. vesicatorium* Doidge (*Phytomonas exitiosa* (Gardner and Kendrick) Com. S. A. B.), bacterial spot. N. Y., Pa., Tenn., Ga., Fla., Ind., Ill., Mich., Iowa, Kans.
*Basisporium gallarum* M. Molliard, fruit-rot. Calif.
*Botrytis cinerea* Auct., gray-mold rot. N. J., Ohio, Ky., Ala.
*Cercospora cruenta* Sacc., leaf-spot. S. C., Ala., Iowa.
*Cladosporium fulvum* Cke., leaf-mold. General.
*Colletotrichum phomoides* (Sacc.) Chester, anthracnose. East of Great Plains; Wash., Calif.
*Corticium vagum* Berk. and Curt., stem-rot, soil-rot. General.
*Fusarium lycopersici* Sacc., Fusarium wilt. Conn. to Nebr. and southward, Calif.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose. N. Y.. Mich., Fla., La.
*Heterodera radicicola* (Greef) Muell., root-knot. General in South.
*Isaria clonostachoides* F. J. Pritchard and W. S. Porte, fruit-rot. Va., D. C.
*Macrosporium tomato* Cke., nailhead spot. Fla. and other Southern States.
*Melanconium* sp., fruit-spot. Ohio, Wis.
*Nematospora lycopersici* A. Schneider, fruit-rot. Calif.
*Olpidium* sp., seedling blight. Wis.
*Oospora lactis parasitica* F. J. Pritchard and W. S. Porte, fruit-rot. N. J., Va., D. C.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex., Ariz.
*Phoma destructiva* Plow. (*Diplodina destructiva* (Plow.) Petr.), ripe-rot, leaf-spot. Widespread.
*Phyllosticta* sp., leaf-spot. Fla.
*Phytophthora* sp. (D. Reddick), stem girdle. N. Y.
*P. infestans* (Mont.) D By., late-blight, damping-off. Atlantic and Pacific Coast States.
*P. terrestris* Sherb., buckeye rot. South Atlantic and Gulf States; Va., Ark., Tenn., Ind.
*Pythium debaryanum* Hesse, damping-off. New England, N. Y., Ohio, Pa., Wash.
*Rhizopus nigricans* Ehr., black-mold rot. Frequent in harvested crop.
*Sclerotinia sclerotiorum* (Lib.) Mass., stem-rot, fruit-rot. General.
*Sclerotium rolfsii* Sacc., stem-rot. Southern States.
*Septoria lycopersici* Speg., leaf-spot. General, but infrequent in West.
*Synchytrium endobioticum* (Schilb.) Perc., wart. Pa.
*Verticillium alboatrum* Reinke and Berth., wilt. Northern States.
*V. lycopersici* F. J. Pritchard and W. S. Porte, collar rot. N. J., Del., Md.
Blossom-end rot, nonpar. General.
Mosaic, undet. General.
Oedema, nonpar. N. Y., Ind., Fla.
Streak or winter blight, undet. Common in greenhouses, Mass., N. Y., N. J., Pa., Ohio, Ind., Mich.
Yellow blight, undet. Western States.

**LYONIA.**

*L. ligustrina*, *maleberry.

*Exobasidium vaccinii* Wor., hypertrophy. Mass., N. Y., N. J., Fla., Ala.
*Microsphaera alni vaccinii* Berk. and Curt., powdery mildew. Ala.
*Pucciniastrum myrtilli* (Schum.) Arth., rust. Del., Va., Ala.
*Rhytisma andromedae* Fr., tar-spot. N. J., Va.
*R. decolorans* Schw., tar-spot. Me., Mass., N. J., Fla., Ga., Ala.

**MACLURA.**

*M. pomifera*, Osage-orange.

*Cerotelium fici* (Cast.) Arth., rust. S. C., Ga., La.
*Ovularia maclurae* Ell. and A. B. Langlois, cottony leaf-spot. La., Tex.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Tex., Ind.
*Phyllosticta maclurae* Ell. and Ev., leaf-spot. N. J.
*Sporodesmium maclurae* Thuem., leaf-spot. Mo.

**MAGNOLIA.**

*Magnolia* sp., magnolia.

*Cladosporium fasciculatum* Cda., Tex.
*Colletotrichum* sp., anthracnose. Mass., S. C., Fla.
*Coniothyrium olivaceum grandiflorae* Sacc., leaf-spot. Tex.
*Phyllosticta cookei* Sacc., leaf-spot. N. Y., S. C., Miss., Calif.
*P. terminalis* Ell. and Mart., leaf-spot. N. J.
*Septoria magnoliae* Cke., leaf-spot. Fla.

*M. acuminata*, cucumbertree.

*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Ohio.
*Phyllosticta cookei* Sacc., leaf-spot. W. Va.

*M. glauca*, sweetbay.

*Cercospora magnoliae* Ell. and Hark., leaf-spot. N. J.
*Cladosporium fasciculatum* Cda. N. J.
*Dimerosporium magnoliae* Tr. and Earle, sooty mold. Miss.
*Macrosporium martindalei* Ell. and Mart., leaf-spot. N. J.
*Phyllosticta cookei* Sacc., leaf-spot. N. J., Fla.
*P. glauca* Cke., leaf-spot. S. C., Fla., Ala.

*M. grandiflora*, southern magnolia.

*Coniothyrium olivaceum grandiflorae* Sacc., leaf-spot. Tex.
*Leptothyrella langloisii* (Ell. and Ev.) Sacc. La.
*Phyllosticta cookei* Sacc., leaf-spot. Fla., Miss., La.
*Septoria magnoliae* Cke., leaf-spot. S. C., Ga., La., Tex.
*S. niphostoma* Berk. and Curt., leaf-spot. N. C., S. C., Ga.

**MAHONIA.**

*Mahonia* spp. (native western species), hollygrape, Oregon grape.

*Puccinia graminis* Pers., rust. Mich., Mont., Colo., N. Mex., Wash.
*P. koeleriae* Arth., rust. Mont., Colo., Idaho, Oreg.
*P. oxalidis* Diet. and Ell., rust. N. Mex.
*Uropyxis sanguinea* (Pk.) Arth., rust. Western States.

**MALUS.**

*M. baccata*, Siberian crab apple.

*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. Ohio, W. Va., Tex., Wash.
*Gymnosporangium globosum* Farl., rust. Kans.
*G. juniperi-virginianae* Schw., rust. Md.
*Phyllosticta solitaria* Ell. and Ev., blotch. Ohio.
*Physalospora malorum* (Pk.) Shear (*P. cydoniae* Am. Auct.), black-rot. Ohio.
*Venturia inaequalis* (Cke.) Aderh., scab. Ohio, Nebr.

*M. coronaria*, wild sweet crab apple.

*Ascochyta coronaria* Ell. and Davis, leaf-spot. Wis.
*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. W. Va.
*Cercosporella persicae* Sacc., leaf-spot. Ill.
*C. pyrina* Ell. and Ev., leaf-spot. Wis.
*Gymnosporangium juniperi-virginianae* Schw., rust. General east of Great Plains.
*Nummularia discreta* (Schw.) Tul., blister canker. W. Va.
*Phyllosticta solitaria* Ell. and Ev., blotch. W. Va., Ind.
*Physalospora malorum* (Pk.) Shear (*P. cydoniae* Am. Auct.), black-rot. N.Y., Ill.
*Podosphaera oxyacanthae* (DC.) D By., powdery mildew. Wis.

*M. ioensis*, prairie crab apple.

*Cercosporella pyrina* Ell. and Ev., leaf-spot. Wis.
*Gymnosporangium juniperi-virginianae* Schw., rust. East of Great Plains.
*Marssonia coronariae* Sacc. and Dearn., leaf-spot. Mo.
*Phyllosticta zonata* Ell. and Ev., leaf-spot. Iowa.
*Venturia inaequalis* (Cke.) Aderh., scab. Ill., Wis., Iowa, Nebr.

*M. sylvestris*, apple.

*Alternaria* sp., fruit-spot, fruit-rot. Reported from 11 scattered States.
*A. mali* J. W. Roberts, leaf-spot. Va., Md., Tenn., Ark., Mo.

**MALUS**—Continued.

*M. sylvestris*, apple—Continued.

*Armillaria mellea* (Vahl) Quel., root-rot. General, especially in Pacific Northwest.

*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. General.

*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall, hairy-root. General.

*Botryosphaeria ribis* Gross. and Dug., black-rot. Va., Ga., Ark.

*Botrytis cinerea* Auct., fruit-rot. Wash.

*Cephalothecium roseum* Cda., pink-rot. General, especially east of Rocky Mts.

*Cercospora mali* Ell. and Ev., leaf-spot. Ala., Miss., La., Tex.

*Clitocybe monadelpha* (Morgan) Sacc., root-rot. Va., W. Va., N. C., Ind., Mo., Ark., Okla., Tex., Colo., Ariz., Wash.

*Comandra pallida* DC., bastard toadflax. Wash.

*Corticium laetum* Karst., limb-blight. La.

*C. stevensii* Burt (*Hypochnus ochroleucus* F. Noack), leaf-blight. N. C., S. C., Ga., Ala., Miss., Tex., Ind.

*Cytospora* sp., canker. Oreg.

*Fomes applanatus* (Pers.) Wallr. (*Ganoderma applanatum* (Pers.) Pat.), white-streaked rot. Ind.

*F. fomentarius* (L.) Fr., white sapwood rot. Mont.

*F. igniarius* (L.) Fr., white heart-rot. Conn., N. Y.

*Fusicoccum pyrorum* C. Chupp and G. L. Clapp, canker. N. Y., Md.

*Gloeodes pomigena* (Schw.) A. S. Colby (*Phyllachora pomigena* (Schw.) Sacc.), sooty blotch. New England to N. C. and westward to Nebr.

*Gloeosporium perennans* Zeller and Childs, perennial canker. Wash., Oreg.

*Glomerella cingulata* (Ston.) Spauld. and Schrenk, bitter-rot. Mass. to Nebr. and southward; occasionally in Pacific Coast States.

*Gymnosporangium blasdaleanum* (Diet. and Holw.) Kern, rust. Oreg.

*G. germinale* (Schw.) Kern, rust. Mass., R. I., Va.

*G. globosum* Farl., rust. New England south to Ga.

*G. juniperi-virginianae* Schw., rust. General east of Great Plains.

*Leptosphaeria coniothyrium* (Fckl.) Sacc., orange pox canker. Middle Atlantic States; Ohio, Ind., Minn., Kans.

*Leptothyrium pomi* (Mont. and Fr.) Sacc., flyspeck. East of Great Plains; occasionally collected in Northwest.

*Myxosporium corticolum* Edg. (*Dermatea corticola* (Edg.) Arn.), surface bark canker. New England, N. Y., Pa., Md., Ohio, Mich., S. Dak., Oreg.

*Nectria galligena* Bres., European canker. Me. to Ill. and N. C., Minn., Pacific coast.

*Neofabraea malicorticis* (A. B. Cordley) Jack., anthracnose, black-spot canker. Pacific Northwest; Mont., Nev., Calif.

*Nummularia discreta* (Schw.) Tul., blister canker. East of Rocky Mts., most destructive in Miss. Valley States; N. Dak., S. Dak.

*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Ark., Tex., N. Mex., Ariz.

*Penicillium expansum* (Lk.) emend. Thom, blue-mold rot. General in stored fruit.

*Phoma mali* Schulz. and Sacc., twig-blight. Me., Mass., Md., W. Va., Okla., N. Mex.

*P. pomi* Pass., fruit-spot. Me. to N. C., and westward to Ark. and Iowa.

*Phomopsis mali* J. W. Roberts, rough-bark disease. Va., Ohio, Ill., Pacific Coast States.

*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Tex.

*Phyllosticta clypeata* Ell. and Ev., leaf-spot. Oreg.

*P. limitata* Pk., leaf-spot. Mass., N. Y., W. Va., N. C., Ind.

*P. prunicola* Sacc., leaf-spot. Ohio.

*P. solitaria* Ell. and Ev., blotch. East of Great Plains except New England and Fla.

*Physalospora malorum* (Pk.) Shear (*P. cydoniae* Am. Auct.), black-rot, frog-eye. General, especially east of Great Plains.

*Phytophthora cactorum* (Leb. and Cohn) Schroet., fruit-rot. Conn., N. Y., Pa., Va., Ind., Mich., Idaho, Wash.

*Plenodomus fuscomaculans* G. H. Coons, canker. Mich., Calif.

**MALUS**—Continued.

*M. sylvestris*, apple—Continued.

*Podosphaera leucotricha* (Ell. and Ev.) Salm., powdery mildew. General, most destructive in Western States.
*P. oxyacanthae* (DC.) D By., powdery mildew. General.
*Polyporus lacteus* Fr., sap-rot and heart-rot. Va., Ind., Idaho, Wash., Oreg.
*Polystictus versicolor* (L.) Fr., yellowish wood-rot. N. Y., Mo., Kans., Pacific coast.
*Pseudomonas papulans* D. H. Rose, blister spot. Mo.
*Schizophyllum commune* Fr., heart-rot. North of Ohio and Mo. Rivers; Kans., Nebr., Pacific coast.
*Sclerotinia cinerea* (Bon.) Schroet. (*Monilia oregonensis* Barss and Posey), blossom blight. Wash., Oreg.
*S. fructicola* (Wint.) Rehm (*S. americana* (Wormald) Norton and Ezekiel) brown-rot. East of Great Plains; Pacific coast.
*Septobasidium* sp., canker. N. Y., Miss., Tex.
*S. pseudopedicellatum* Burt, canker. N. C.
*S. retiforme* (Berk. and Curt.) Pat., canker. Southern States.
*Stereum purpureum* Pers., associated with silver-leaf. Me., N. Y., Minn., Wash.
*Valsa* spp. (*Cytospora* spp.), die-back, canker. New England, N. Y., Pa., Ill., Minn., Western States.
*Venturia inaequalis* (Cke.) Aderh., scab. Reported from every State except Fla., La., Tex., Ariz., Nev., Utah, Wyo. Most serious in East.
*Volutella fructi* F. L. Stevens and J. G. Hall, spongy dry-rot. Mass., N. Y., Pa., W. Va., N. C., Ind.
*Xylaria* spp., black root-rot. N. Y., Pa., Va., W. Va., Tenn., N. C., S. C., Ga., Ark., Ind., Ill., Mich., Iowa, Kans.
Bitter-pit (stippen, Baldwin spot), undet. General.
Black-heart, nonpar. Md., Va., Nebr., Mont.
Chlorosis, nonpar. Me., N. Y., Pa., S. Dak., N. Mex., Wyo., Wash.
Jonathan spot, undet. Eastern apple sections to Nebr. and Kans.; Colo., Idaho, Pacific coast.
Measles, undet. Pa., Md., Va., W. Va., S. C., Ala., Ark., Tex., Ohio, Ill., Mich., Mo., Kans., Colo., N. Mex.
Mosaic, undet. N. Y.
Rosette, undet. Del., Md., Kans., Colo., Pacific Northwest.
Scald, nonpar. General on stored fruit.
Tan disease, undet. Md., Wash.
Water-core, nonpar. General.

**MANGIFERA.**

*M. indica*, mango.

*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose. Fla.
*Phyllosticta mortoni* Fairman, leaf-spot. Fla.

**MANIHOT.**

*M. esculenta*, cassava.

*Cercospora cassavae* Ell. and Ev., leaf-spot. Fla.
*Gloeosporium manihotis* P. Henn., wither-tip. La.

**MEDICAGO.**

*M. maculata*, southern bur clover.

*Cercospora medicaginis* Ell. and Ev., leaf-spot. Southern States.
*Pseudoplea medicaginis* Miles, leaf-spot. Ala.

*M. sativa*, alfalfa.

*Aplanobacter insidiosum* McC., bacterial root-rot. Ala., Ind., Ill., Wis., Colo.
*Ascochyta imperfecta* Pk., leaf-spot. N. Y., Ky., Ill., Wash.
*Bacterium medicaginis* (Sack.) EFS. (*Phytomonas medicaginis* (Sack.) Com. S. A. B.), bacterial blight. General, especially in Western States.
*B. tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Md., Va., Ky., Ala.
*Cercospora medicaginis* Ell. and Ev., leaf-spot. East of Great Plains.
*Colletotrichum trifolii* S. M. Bain, anthracnose. General east of Great Plains.

**MEDICAGO**—Continued.

*M. sativa*, alfalfa—Continued.

*Cuscuta* sp., dodder. Frequent where alfalfa is grown.
*Fusarium* sp., root-rot. S. C., Va., Ohio, N. Dak., Kans., N. Mex., Utah, Nev.
*Gloeosporium medicaginis* Ell. and Kell., anthracnose. Va., Kans., Okla.
*Heterodera radicicola* (Greef) Muell., root-knot. N. Y., N. J., Tex.
*Macrosporium* sp., leaf-spot. Me., Pa., N. J., Md., Va., W. Va., La., Tex., Mich., Mo.
*M. sarcinaeforme* Cav., black-mold. Ill.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Ark., Okla., Tex., Southwest.
*Peronospora trifoliorum* D By., downy mildew. General.
*Pleosphaerulina briosiana* Poll., leaf-spot. Va., Ky., Ala., Ga., Ind., Ill., Wis., Minn., Iowa, Mo., S. Dak., Kans.
*Pseudopeziza medicaginis* (Lib.) Sacc., leaf-spot. General.
*Pyrenopeziza medicaginis* Fckl., yellow leaf-blotch. General.
*Rhizoctonia crocorum* (Pers.) DC., violet root-rot. Middle Atlantic States; Miss. Valley; Pacific Northwest.
*Sclerotinia trifoliorum* Eriks., stem-rot. Mostly east of Miss. River; Pacific coast.
*Sclerotium rolfsii* Sacc., stem-rot. Va., La.
*Stagonospora* sp., leaf-spot. N. Y., N. J., Del., Ill.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. Mass., N. J., Tex.
*Tylenchus dipsaci* (Kuehn) Bast., stem nematode. Wyo., Colo., N. Mex., Idaho, Oreg., Calif.
*Uromyces medicaginis* Pass., rust. General.
*Urophlyctis alfalfae* (Lagh.) Magn., crown-wart. West of Rocky Mts.
Girdle, undet. Ariz.
Yellowing, undet. General, especially in the eastern United States.

**MELIA.**

*M. azedarach*, chinaberry.

*Cercospora leucosticta* Ell. and Ev., leaf-spot. Ala., Miss., La.
*C. meliae* Ell. and Ev., leaf-spot. La.
*Nectria cinnabarina* (Tode) Fr., canker. S. C.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex., Ariz.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Tex.
*Phyllosticta meliae* Ell. and Ev., leaf-spot. La.

*M. azedarach umbraculiformis*, Texas umbrella-tree.

*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.

**MELILOTUS.**

*M. alba*, white sweetclover.

*Ascochyta meliloti* (Trel.) Davis, leaf-spot. Occurs in widely scattered States.
*Cercospora davisii* Ell. and Ev., leaf-spot. Ala., Md., Ind., Wis., Minn., Iowa, Kans.
*Colletotrichum trifolii* S. M. Bain, anthracnose. Ill.
*Corticium vagum* Berk. and Curt., stem-rot. Ala., Mich., Mont., Wash.
*Fusarium* sp., root-rot. Tenn., N. Dak., N. Mex.
*Gloeosporium* sp., anthracnose. Ill., Wis., Kans.
*Heterodera radicicola* (Greef) Muell., root-knot. S. C., Ala.
*Mycosphaerella lethalis* R. E. Stone, stem-spot. N. Y.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Peronospora trifoliorum* D By., downy mildew. Wis.
*Sclerotinia trifoliorum* Eriks., root-rot. Ky., Wash.
*Stagonospora meliloti* (Lasch) Petr., leaf-spot. Wis.
Mosaic, undet. Ark., N. Dak.

**MENISPERMUM.**

*M. canadense,* moonseed.

*Cercospora menispermi* Ell. and Holw., leaf-spot. W. Va., Iowa, Kans.
*Entyloma menispermi* Farl. and Trel., smut. North-Central States.
*Phyllosticta abortiva* Ell. and Kell., leaf-spot. Kans.
*Ramularia contexta* Ell. and Ev., leaf-spot. N. Dak.

**MENTHA.**

*M. piperita,* peppermint.

*Puccinia menthae* Pers., rust. Mass., Calif.

*M. spicata,* spearmint.

*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Wash.
*Phyllosticta decidua* Ell. and Kell., leaf-spot. Ohio.
*Puccinia menthae* Pers., rust. Mass., N. Y., Ohio, Mich., Ind., Ky., Wis., Wash.

**MIRABILIS.**

*M. jalapa,* common four-o'clock.

*Albugo platensis* (Speg.) Sw., white-rust. Tex.
*Cercospora mirabilis* Tharp, leaf-spot. Tex.

**MORUS.**

*Morus* sp., mulberry.

*Armillaria mellea* (Vahl) Quel., root-rot. Del.
*Bacterium mori* (Boyer and Lambert) emend. EFS. (*Phytomonas mori* (Boyer and Lambert) Com. S. A. B.), mulberry blight. Widespread.
*Cercospora missouriensis* Wint., leaf-spot. Tex.
*C. moricola* Cke., leaf-spot. Widespread east of Great Plains.
*C. pulvinulata* Sacc. and Wint., leaf-spot. Nebr., Kans.
*Cercosporella mori* Pk., leaf-spot. Nebr., Tex.
*Exosporium* sp., leaf-spot. Fla.
*Gibberella moricola* Ces. and DeNot., twig-blight. Pa., Wis.
*Hymenochaete agglutinans* Ell., heart-rot. Md.
*Myxosporium diedickei* Syd., twig-blight. Tex., Wash.
*Mycosphaerella morifolia* (Fckl.) Lindau, leaf-spot. Ind.
*Nectria* sp., bark disease, canker. N. J., Ky., Ala., Ark., Ind., Kans.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex., Ariz.
*Phleospora maculans* (Bereng.) Allesch., leaf-spot. Widespread east of Great Plains.
*P. moricola* (Pass.) Sacc., leaf-spot. Pa., Md., Kans.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Ohio.
*Sclerotinia carunculoides* E. A. Siegler and A. Jenkins, pop-corn disease. S. C., Ga., Ala., Miss., La., Tex.
*Uncinula geniculata* W. R. Gerard, powdery mildew. Widespread east of Great Plains.

**MUSA.**

*Musa* sp., banana.

*Fusarium* sp., Panama wilt. Fla.
*Gloeosporium musarum* Cke. and Mass., stem-rot, fruit-rot. Fla.
*Heterodera radicicola* (Greef) Muell., root-knot. Fla.

**MYRICA.**

*Myrica* spp. (*M. cerifera* and *M. carolinensis*), bayberry, waxmyrtle.

*Cercospora diffusa* Ell. and Ev., leaf-spot. N. J.
*C. myricae* Tr. and Earle, leaf-spot. Miss.
*C. penicillus* Ell. and Ev., leaf-spot. N. J., Miss.
*Gymnosporangium myricatum* (Schw.) F. D. Fromme, rust. Mass., N. J., Pa.
*Phyllosticta myricae* Cke., leaf-spot. N. J., S. C., Fla.
*Ramularia monilioides* Ell. and Mart., leaf-spot. Mass., N. Y.
*Septoria myricae* Ell. and Ev., leaf-spot. N. J.

**NARCISSUS.**

*Narcissus* sp., narcissus, jonquil.

*Botrytis* sp., blight. Wash.
*Tylenchus dipsaci* (Kuehn) Bast., bulb nematode. Ill., Oreg., Calif.
Mosaic (gray disease), undet. Wash.

**NERIUM.**

*N. oleander*, oleander.

*Bacterium savastanoi* EFS. (*Phytomonas savastanoi* (EFS.) Com. S. A. B.), gall. Ariz.
*Cercospora neriella* Sacc., leaf-spot. La., Tex.
*Macrosporium nerii* Cke., leaf-spot. Ga., Fla., Miss., Calif.
*Phyllosticta nerii* West., leaf-spot. Fla., La., Mich.
*Septoria* sp., specked leaf-spot. Fla.
*S. oleandrina* Sacc., leaf-spot. Fla., La.

**NICOTIANA.**

*N. tabacum*, tobacco.

*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), hollow-stalk. Conn.
*Bacterium angulatum* F. D. Fromme and T. J. Murray, angular leaf-spot, black-fire. Mass., Conn., N. Y., Md., Va., N. C., S. C., Tenn., Ky., Ind., Wis.
*B. melleum* James Johnson, bacterial leaf-spot. Ky., Wis.
*B. solanacearum* EFS. (*Phytomonas solanaceara* (EFS.) Com. S. A. B.), bacterial wilt, Granville wilt. Southern States; Ohio.
*B. tabacum* Wolf and A. C. Foster (*Phytomonas tabaca* (Wolf and Foster) Com. S. A. B.), wild-fire. General.
*Cercospora nicotianae* Ell. and Ev., frog-eye. Atlantic Coast States; Wis., Tex.
*Corticium vagum* Berk. and Curt., sore-shin. General.
*Fusarium affine* C. M. Slagg, leaf-spot. Conn., Ky., Wis.
*F. oxysporum nicotianae* James Johnson, wilt. Md., Ohio, Ky., Tenn.
*Heterodera radicicola* (Greef) Muell., root-knot. Southern States.
*Macrosporium longipes* Ell. and Ev., brown-spot. Pa., N. C., Mo.
*M. tabacinum* Ell. and Ev., white-speck. Mass., Conn., N. C., Ohio, Mo.
*Olpidium* sp., seedling blight. Wis.
*Orobanche ramosa* L., broom-rape. Ohio, Ky.
*Peronospora hyoscyami* D By., downy mildew. Ga., Fla.
*Phyllosticta nicotiana* Ell. and Ev., leaf-spot. Mass., Va., N. C.
*Phytophthora nicotianae* (Speg.) Van Breda de Haan, black-shank. Ga., Fla.
*Pythium debaryanum* Hesse, damping-off. General.
*Sclerotinia sclerotiorum* (Lib.) Mass., stem-rot. Conn.
*Sclerotium rolfsii* Sacc., stem-rot. N. C.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. General.
Brown root-rot, undet. Mass., Conn.
Frenching, undet. Va., N. C., Ky., Ohio, Wis.
Leaf-spots including "rust," firing, ring-spot, etc., nonpar. Widespread.
Mosaic, undet. General.
Sand-drown, nonpar. N. C.

**NYSSA.**

*N. aquatica*, big tupelo.

*Aplopsora nyssae* (Ell.) E. B. Mains, rust. Miss.
*Phyllosticta nyssae* Cke., leaf-spot. Ga., Ala.

*N. sylvatica*, *sour gum, tupelo, *pepperidge.

*Leptothyrium dryinum* Sacc., leaf-spot. Ala.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Tex.
*Phyllosticta nyssae* Cke., leaf-spot. N. Y.
*Pirostoma nyssae* L. R. Tehon, leaf-spot. Ill.

**OLEA.**

*O. europaea*, olive.

*Armillaria mellea* (Vahl) Quel., root-rot. Calif.
*Bacterium savastanoi* EFS. (*Phytomonas savastanoi* (EFS.) Com. S. A. B.), knot. Calif.

**OLEA**—Continued

*O. europaea*, olive—Continued.

*Cycloconium oleaginum* Cast., leaf-spot. Calif.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.

**ORYZA.**

*O. sativa*, rice.

*Cercospora oryzae* Miyake, leaf-spot. La.
*Corticium vagum* Berk. and Curt., foot-rot. Ark.
*Fusarium minimum* Fckl., wilt. La.
*Helminthosporium* sp., leaf-spot. S. C., Ark.
*H. oryzae* Van Breda de Haan, blight. Fla., La.
*Ophiobolus* sp., foot-rot. Ark.
*Phoma glumarum* Ell. and Tr., glume-blight. Miss.
*Piricularia grisea* (Cke.) Sacc., blast. Occurs in all States where rice is grown.
*Sclerotium oryzae* Catt., stem-rot. La., Ark.
*S. rolfsii* Sacc., seedling blight. La.
*Sphaerotheca* sp., powdery mildew. N. C.
*Tilletia horrida* Tak., black-smut. S. C., Ga., La., Ark.
*Ustilaginoidea virens* (Cke.) Tak., green-smut. Ga., La.
Straighthead, nonpar. General in States in which rice is grown.

**OSMANTHUS.**

*Osmanthus* sp., osmanthus.

*Phyllosticta oleae* Ell. and Mart., leaf-spot. Fla.
*P. sinuosa* Ell. and Mart., leaf-spot. Fla., Miss.
*P. terminalis* Ell. and Mart., leaf-spot. Fla.

**OSTRYA.**

*O. virginiana*, hophornbeam.

*Fomes igniarius* (L.) Fr., white heart-rot. N. Dak., S. Dak.
*Gloeosporium robergiae* Desm., leaf-spot. Wis.
*G. robergiae dendriticum* Davis, leaf-spot. Pa.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. N. Y., Ill., Iowa.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. General over range of host.
*Septoria ostryae* Pk., leaf-spot. N. Y.
*Taphrina virginica* Seym. and Sadeb., leaf-spot. N. H., Mass., Ala., Wis. Iowa.

**OXYDENDRUM.**

*O. arboreum*, sourwood.

*Cercospora oxydendri* Tr. and Earle, leaf-spot. Ala.
*Phyllosticta oxydendri* Ell. and Ev., leaf-spot. W. Va.

**PAEONIA.**

*Paeonia* sp., peony.

*Armillaria mellea* (Vahl) Quel., root-rot. Mich., Oreg.
*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Mich.
*Botrytis* sp., seed-rot. Pa.
*B. paeoniae* Oud., blight. Widespread.
*Cerospora variicolor* Wint., leaf-spot. Ind., Ky., Mo., Nebr.
*Cladosporium paeoniae* Pass., leaf-mold. General.
*Corticium vagum* Berk. and Curt., stem-rot. Minn.
*Fusarium* sp., root-rot, stem-rot. Ind., Mo., Nebr.
*Heterodera radicicola* (Greef) Muell., root-knot. N. Y., Pa., S. C., Miss., Ohio, Ind., N. Dak., Nebr., Wash.
*Phyllosticta commonsii* Ell. and Ev., leaf-spot. Del., Ind.
*Phytophthora* sp., blight. Conn., Pa., Ind., Kans.
*Septoria paeoniae berolinensis* Allesch., leaf-spot. N. Y.
*Verticillium alboatrum* Reinke and Berth., wilt. Kans.
Mosaic, undet. Mass., Conn., Va., Ohio, Kans., Wash.

**PANAX.**

*P. quinquefolium*, American ginseng.

*Alternaria panax* Whet., blight. General; N. Y. to Minn. southward to Kans. and N. C.
*Botrytis* sp., gray-mold. Conn., N. Y., Mich., Wash.
*Corticium vagum* Berk. and Curt., stem-rot. N. Y., Wash.
*Fusarium* sp., wilt. N. Y., Ala., Ohio, Mo.
*Heterodera radicicola* (Greef) Muell., root-knot. N. Y., Pa., Ohio, Mich., Wis.
*Pestalozzia funerea* Desm., leaf anthracnose. Mo.
*Phytophthora cactorum* (Leb. and Cohn) Schroet., blight, downy mildew. Conn., N. Y., Pa., Ohio, Ind., Mich., Iowa, Wash.
*Ramularia destructans* C. L. Zinssmeister, root-rot. Wis.
*R. panacicola* C. L. Zinssmeister, root-rot. N. Y., Wis.
*Sclerotinia panacis* W. H. Rankin, black-rot. N. Y., Mich., Wis.
*S. sclerotiorum* (Lib.) Mass., white-rot. N. Y., Pa., Ohio, Mich., Wis.
*S. smilacina* E. J. Durand, black-rot. N. Y., Mich., Wis.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. General where ginseng is grown.
*Vermicularia dematium* (Pers.) Fr., stem anthracnose. N. Y., Va., N. C., Tenn., Ohio, Ill., Minn., Mo.
*Verticillium alboatrum* Reinke and Berth., wilt. N. Y., Pa., N. J., Tenn., Ky., Ohio, Mich., Ind.
Damping-off, associated with various fungi. General.
Papery leaf-spot, nonpar. N. Y., Mich.
Soft-rot, undet. N. Y., Pa., Ohio, Ind.

**PANICUM.**

*P. miliaceum*, proso millet, broomcorn millet.

*Bacterium panici* C. Elliott, bacterial stripe. Wis., S. Dak.
*Fusarium rhizochromatistes* C. P. Sideris, root-rot. Calif.
*Phyllachora graminis* (Pers.) Fckl., black-blotch. Tex.
*Piricularia grisea* (Cke.) Sacc., leaf-spot. Minn., Ohio.
*Puccinia emaculata* Schw., rust. Ind.
*Sclerospora graminicola* (Sacc.) Schroet., downy mildew. Wis., Minn., Iowa, N. Dak., S. Dak.
*Sorosporium syntherismae* (Pk.) Farl., smut. N. J., Wis., Minn., Mo., N. Dak., Nebr.
*Ustilago panici-miliacei* (Pers.) Wint., smut. N. Dak., Colo., Wash.

**PARKINSONIA.**

*P. aculeata*, parkinsonia.

*Cylindrosporium parkinsoniae* Heald, leaf-spot. Tex.
*Dimerosporium parkinsoniae* Heald and Wolf, sooty mold. Tex.
*Phyllosticta parkinsoniae* Ell. and Ev., leaf-spot. Tex.

**PASTINACA.**

*P. sativa*, parsnip.

*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. Conn., Mass., Minn.
*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Va.
*Cercospora apii pastinacae* Farl., leaf-spot. North Atlantic and North-Central States.
*Corticium vagum* Berk. and Curt., stem-rot. Tex., Wash.
*Heterodera radicicola* (Greef) Muell., root-knot. Va., Ala., La., Ohio, Ind., Kans.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Ramularia pastinacae* (Karst.) Lindr. and Vester., leaf-spot. N. Y., Ind., N. Dak.
*Sclerotinia sclerotiorum* (Lib.) Mass., watery soft-rot. Ind.
*Septoria pastinacina* Sacc., leaf-spot, blight. N. Y., Utah.

**PAULOWNIA.**

*P. tomentosa,* *princess tree.

*Ascochyta paulowniae* Sacc. and Brun., leaf-spot. D. C.
*Phyllosticta paulowniae* Sacc., leaf-spot. N. Y., D. C.

**PELARGONIUM.**

*Pelargonium* sp., geranium.

*Alternaria* sp., leaf-spot. Mass., La., Mich., Calif.
*Bacterium erodii* I. M. Lewis, bacterial leaf-spot. Conn., Pa., N. Y., Miss., Ohio, Ind., Ill., Wash.
*B. pelargoni* N. A. Brown, bacterial leaf-spot. Mass., N. J., Md., Va., D. C.
*Botrytis cinerea* Auct., gray-mold. Conn., Md., La., Ohio, Mich., Minn., Kans.
*Cercospora brunkii* Ell. and Gall., leaf-spot. Ala., Miss., Tex.
*Pythium complectens* H. Braun, stem-rot. D. C., Okla.

**PERSEA.**

*P. americana,* avocado.

*Cercospora* sp., blotch. Fla.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose, leaf-spot, fruit-spot. Fla., Ga., Tex.
*Phyllosticta* sp., leaf-spot. Fla.
*Pythiacystis citrophthora* E. H. and R. E. Smith, bark disease. Calif.
*Sporotrichum citri* Butl. (*Sphaceloma fawcettii* A. Jenkins), scab. Fla.

*P. borbonia,* redbay.

*Helminthosporium fumosum* Ell. and Mart., leaf-blotch. Fla.
*Phyllosticta micropuncta* Cke., leaf-spot. D. C., Fla., Miss., La., Tex.

**PETROSELINUM.**

*P. hortense,* parsley.

*Cercospora apii* Fresen., leaf-spot. N. J.
*Corticium vagum* Berk. and Curt., root canker. N. Y.
*Heterodera radicicola* (Greef) Muell., root-knot. Tex.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Sclerotinia sclerotiorum* (Lib.) Mass., stem-rot. Conn., N. Y., Pa., Va., La., Tex.
*Septoria petroselini* Desm., leaf-spot. Conn., N. J.

**PETUNIA.**

*P. hybrida,* petunia.

*Ascochyta petuniae* Speg., leaf-spot.
*Cercospora* sp., leaf-blotch. Fla.
*Corticium vagum* Berk. and Curt., stem-rot. Pa.
*Heterodera radicicola* (Greef) Muell., root-knot.
*Macrosporium sarcinula parasiticum* Thuem., black stalk-rot. Tex.
Mosaic, undet. Conn., Pa., S. C., La., Iowa.

**PHASEOLUS.**

*P. acutifolius latifolius,* tepary bean.

*Fusarium* sp., wilt. Calif.
*F. martii phaseoli* Burk., dry root-rot. N. Y.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Uromyces appendiculatus* (Pers.) Lk., rust. Tex., Calif.

*P. angularis,* adzuki bean.

*Amerosporium oeconomicum* Ell. and Tr., leaf-spot. Va.
*Bacterium phaseoli* EFS. (*Phytomonas phaseoli* (EFS.) Com. S. A. B.), bacterial blight. Ind.
*Fusarium martii phaseoli* Burk., dry root-rot. N. Y.
*F. vasinfectum* Atk., wilt. Ala.
Mosaic, undet. Ind.

*P. aureus,* mung bean.

*Bacterium phaseoli* EFS. (*Phytomonas phaseoli* (EFS.) Com. S. A. B.), bacterial blight. Ind.
*Sclerotinia sclerotiorum* (Lib.) Mass., stem-rot. Va.
Mosaic, undet. Ind.

**PHASEOLUS**—Continued.

*P. coccineus*, Scarlet Runner bean.

*Colletotrichum lindemuthianum* (Sacc. and Magn.) Briosi and Cav. (*Glomerella lindemuthiana* Shear), anthracnose.

*Fusarium martii phaseoli* Burk., root-rot. N. Y.

*P. lunatus*, civet bean, and *P. lunatus macrocarpus*, Lima bean.

*Bacterium phaseoli* EFS. (*Phytomonas phaseoli* (EFS.) Com. S. A. B.), leaf-spot. Occurs scatteringly throughout Eastern States.

*B. viridifaciens* W. B. Tisdale and M. M. Williamson, bacterial leaf-spot. N. Y., Ind., Wis.

*Cercospora cruenta* Sacc., leaf-spot. N. Y., Miss., Mo., Tex.

*C. phaseolorum* Cke., leaf-spot. La.

*Colletotrichum lindemuthianum* (Sacc. and Magn.) Briosi and Cav. (*Glomerella lindemuthiana* Shear), anthracnose. Conn., N. Y., Pa., W. Va., La., Kans.

*Corticium vagum* Berk. and Curt., stem-rot. Pa., Calif.

*Diaporthe phaseolorum* (Cke. and Ell.) Sacc., pod-blight. Widespread in eastern United States.

*Erysiphe polygoni* DC., powdery mildew. Conn., Calif.

*Fusarium* sp., root-rot. Ohio, Calif.

*F. martii phaseoli* Burk., dry root-rot. N. Y.

*Heterodera radicicola* (Greef) Muell., root-knot. Calif.

*Nematospora phaseoli* S. A. Wingard, yeast-spot. Va., Tenn., Ala., Ill.

*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.

*Phyllosticta phaseolina* Sacc., leaf-spot. N. J., W. Va., Fla., Ind., Mich.

*Phytophthora phaseoli* Thax., downy mildew. Atlantic Coast States; W. Va., Ky., Ohio, Calif.

*Sclerotinia* sp., stem-rot. Ind.

*Uromyces appendiculatus* (Pers.) Lk., rust. Pa., Md., Va., Ohio, S. C., La., Calif.

Mosaic, undet. W. Va., Ga., Ind., Mo.

*P. vulgaris*, bean.

*Alternaria fasciculata* (Cke. and Ell.) L. R. Jones and A. J. Grout, leaf-spot. La., Mich., Ill., N. Dak., Utah.

*Bacillus lathyri* Manns and Taub., streak. Del.

*Bacterium flaccumfaciens* Hedges (*Phytomonas flaccumfaciens* (Hedges) Com. S. A. B.), bacterial wilt. Md., Va., Mich., S. Dak., Mont., Oreg.

*B. phaseoli* EFS. (*Phytomonas phaseoli* (EFS.) Com. S. A. B.), blight. General.

*B. solanacearum* EFS. (*Phytomonas solanaceara* (EFS.) Com. S. A. B.), bacterial wilt. Fla.

*Botrytis cinerea* Auct., gray-mold rot. N. Y., Miss., Tex.

*Cercospora cruenta* Sacc., leaf-blotch. Fla., Ga.

*Colletotrichum caulicolum* Heald and Wolf, stem canker. Tex.

*C. lindemuthianum* (Sacc. and Magn.) Briosi and Cav. (*Glomerella lindemuthiana* Shear), anthracnose. General.

*Corticium vagum* Berk. and Curt., stem-rot. General.

*Erysiphe polygoni* DC., powdery mildew. Widespread.

*Fusarium martii phaseoli* Burk., dry root-rot. General.

*Heterodera radicicola* (Greef) Muell., root-knot. Southern States; Calif.

*Isariopsis griseola* Sacc., angular leaf-spot. Atlantic Coast States; Fla., Miss.

*Microsphaera diffusa* Cke. and Pk., powdery mildew. Ga.

*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Okla., Tex.

*Phoma* sp., stem-rot. Ohio, Ark.

*Phyllosticta phaseolina* Sacc., leaf-spot. Conn., N. Y., N. J., Va., W. Va., Ind., Miss., La., Tex.

*Pythium debaryanum* Hesse, damping-off. Del., N. J., Ohio.

*Sclerotinia sclerotiorum* (Lib.) Mass., stem-rot. Middle Atlantic and Gulf States; W. Va., Mich., Ind.

*Sclerotium rolfsii* Sacc., stem-rot. Southern States.

*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. N. H., N. Y.

*Uromyces appendiculatus* (Pers.) Lk., rust. General.

Mosaic, undet. General.

**PHILADELPHUS.**

*Philadelphus* spp., *syringa, mockorange.

*Cercospora angulata* Wint., leaf-spot. Mo.
*Gymnosporangium gracilens* (Pk.) Kern and Bethel, rust. Colo., Utah, N. Mex.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Mont.
*Ramularia philadelphi* Sacc., leaf-spot. Wash.
*Septoria philadelphi* Ell. and Ev., leaf-spot. Wash.

**PHLEUM.**

*P. pratense,* timothy.

*Cercospora graminicola* Tr. and Earle, leaf-spot. Miss.
*Claviceps microcephala* (Wallr.) Tul., ergot. Ind., Ky., Alaska.
*C. purpurea* (Fr.) Tul., ergot. Vt., Pa., Ind., Minn.
*Colletotrichum graminicolum* (Ces.) Wils., anthracnose. Pa., Ohio, Ind., Minn.
*Entyloma crastophilum* Sacc., smut. Ill., Wis., Iowa.
*Erysiphe graminis* DC., powdery mildew. Minn.
*Heterosporium phlei* C. T. Gregory, leaf-spot. N. Y., Pa.
*Ophiobolus graminis* Sacc., take-all. N. Y.
*Puccinia coronata* Cda., crown-rust. Iowa.
*P. graminis* Pers., stem-rust. General.
*Scolecotrichum graminis* Fckl., leaf-spot. Widespread in Northern States.
*Septoria* sp., leaf-spot. Pa., Ill.
*Sporotrichum poae* Pk., silver top. N. Y., Ind., Iowa.
*Ustilago striaeformis* (West.) Niessl, stripe-smut. General.

**PHLOX.**

*Phlox* spp., phlox.

*Ascochyta phlogis phlogina* Fairman, leaf-spot. Mass.
*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. N. J.
*Cercospora amphakodes* Ell. and Hals., leaf-spot. Ind., Wis., Iowa.
*C. phlogina* Pk., leaf-spot. Va., Minn.
*Erysiphe cichoracearum* DC., powdery mildew. General.
*Heterodera radicicola* (Greef) Muell., root-knot. Mass.
*Leptosphaeria phlogis* Oud., leaf-spot. Md., Ind., Minn., Iowa, Nebr.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Ohio.
*Puccinia douglasii* Ell. and Ev., rust. N. J., Pa., Nebr., Western States.
*P. plumbaria* Pk., rust. Ill., Iowa, Nebr., Western States.
*Septoria divaricata* Ell. and Ev., leaf-spot. N. Y., Va., Ill.
*Sclerotium rolfsii* Sacc., stem-rot. Ill.
*Sphaerotheca humuli* (DC.) Burr., powdery mildew. Ohio, Kans.
*Tylenchus dipsaci* (Kuehn) Bast., stem nematode. N. J.
*Uromyces polemonii* (Pk.) Arth., rust. S. C., Miss., Ind., Ill., Wis., Iowa.

**PHOENIX.**

*P. canariensis,* Canary Island date palm.

*Exosporium palmivorum* Sacc., leaf-spot. La., Tex.
*Graphiola phoenicis* (Moug.) Poit., false smut. Fla., La., Miss., Tex., Calif.; in hothouses in North.

*P. dactylifera,* date palm.

*Exosporium palmivorum* Sacc., leaf-spot. La.
*Graphiola phoenicis* (Moug.) Poit., false smut. Fla., Tex., Ariz., Calif.

*P. reclinata.* Senegal date palm.

*Graphiola phoenicis* (Moug.) Poit., false smut. S. C.

**PHOTINIA.**

*P. arbutifolia,* Christmasberry.

*Cercospora heteromeles* Hark., leaf-spot. Calif.
*Fabraea maculata* (Lév.) Atk., leaf-spot. Calif.
*Fusicladium photinicola* R. L. McClain, scab. Calif.
*Phyllosticta heteromeles* Cke. and Hark., leaf-spot. Calif.
*Septoria photiniae* Berk. and Curt., leaf-spot. Calif.

**PHYLLOSTACHYS.**

*Phyllostachys* sp., bamboo.

*Cylindrosporium bambusae* Miyake and Hara. Ga.
*Melanconium bambusae* Turconi. Ga.
*Schirrhia bambusae* Turconi. Ga.

*P. bambusoides*, Japanese timber bamboo.

*Coniosporium shiraianum* (Syd.) Bub. Fla.
*Puccinia arundinariae* Schw., rust. Fla.
*P. melanocephala* Syd., rust. Ga., Fla.
*Ustilago shiraiana* P. Henn., smut. Fla., La., Calif.

*P. nigra*, blackjoint bamboo.

*Ustilago shiraiana* P. Henn., smut. Fla., La., Calif.

**PHYSOCARPUS.**

*P. opulifolius*, ninebark.

*Gloeosporium neilliae* Hark., anthracnose. Calif.
*Marssonia lonicerae* Hark., leaf-spot. Wis.
*M. neilliae* Hark., leaf-spot. Calif.
*Ramularia ulmariae* Cke., leaf-spot. N. Y.
*Sphaerotheca humuli* (DC.) Burr., powdery mildew. Wis.

**PICEA.**

*P. canadensis*, white spruce.

*Fomes pinicola* Fr., brown crumbly rot. N. Y.
*F. roseus* (Alb. and Schw.) Fr., brown pocket rot. General.
*Melampsoropsis pyrolae* (DC.) Arth., rust. Me.
*Pythium debaryanum* Hesse, damping-off.
*Razoumofskya pusilla* (Pk.) O. Kuntze, mistletoe. Northeastern States.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Vt., N. Y.

*P. engelmanni*, Engelmann spruce.

*Chrysomyxa weirii* Jack., rust. Mont., Idaho, Oreg.
*Corticium vagum* Berk. and Curt., damping-off. D. C., Calif.
*Echinodontium tinctorium* Ell. and Ev., brown stringy rot. Mont., Idaho, N. Mex.
*Fomes officinalis* (L.) Fr., reddish brown rot.
*F. pinicola* Fr., brown crumbly rot. Mont.
*F. roseus* (Alb. and Schw.) Fr., brown pocket rot.
*Herpotrichia nigra* Hartig, matting. Colo., Wyo., Idaho, Oreg.
*H. quinqueseptata* Weir, brown felt-blight. Idaho.
*Hydnum* sp., honeycomb rot.
*Melampsorella elatina* (Alb. and Schw.) Arth., rust. Idaho.
*Melampsoropsis ledicola* (Pk.) Arth., rust. Colo.
*M. pyrolae* (DC.) Arth., rust. Mont.
*Peridermium coloradense* (Diet.) Arth. and Kern, rust witches'-broom. Northern Rocky Mts.; Pacific Northwest.
*Polyporus dryadeus* (Pers.) Fr., heart-rot. Pacific Northwest.
*P. schweinitzii* Fr., red-brown butt-rot.
*P. sulphureus* (Bull.) Fr., brown-checked wood-rot. Me.
*Pythium debaryanum* Hesse, damping-off.
*Razoumofskya douglasii microcarpa* Engelm., mistletoe. Idaho, Colo., Mont., Ariz., N. Mex.
*R. laricis* Piper, mistletoe. Mont.
*Sparassis radicata* Weir, yellow root-rot. Mont., Pacific Northwest.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Mont., Idaho.

*P. excelsa*, Norway spruce.

*Melampsorella elatina* (Alb. and Schw.) Arth., rust. Mont., Wyo.

*P. mariana*, black spruce, and *P. rubra*, red spruce.

*Fomes annosus* Fr., white spongy rot. Me.
*F. pinicola* Fr., brown crumbly rot. Me.
*Melampsoropsis abietina* (Alb. and Schw.) Arth., leaf blister rust. N. H., Mich.
*M. cassandrae* (Pk. and Clint.) Arth., leaf blister rust. Mich., Minn.
*M. ledicola* (Pk.) Arth., leaf blister rust. Me., Minn.
*Polyporus borealis* Fr., cuboidal wood-rot. Minn.

**PICEA**—Continued.

*P. mariana*, black spruce, and *P. rubra*, red spruce—Continued.

*P. schweinitzii* Fr., red-brown butt-rot. Minn.
*Razoumofskya pusilla* (Pk.) O. Kuntze, witches'-broom. New England, N. Y., Mich.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Me., Minn.

*P. sitchensis*, Sitka spruce.

*Fomes officinalis* Fr., reddish brown-rot. Wash.
*F. pinicola* Fr., brown crumbly rot. General within range of host.
*F. roseus* (Alb. and Schw.) Fr., brown pocket rot. General within range of host.
*Lophodermium pinastri* (Schrad.) Chev., needle cast. Alaska.
*Melampsoropsis ledicola* (Pk.) Arth., leaf blister rust. Wash., Alaska.
*Polyporus berkeleyi* Fr., string and ray rot. Calif.
*P. schweinitzii* Fr., red-brown butt-rot. Oreg.
*Pythium debaryanum* Hesse, damping-off.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Oreg.

**PINUS.**

*P. albicaulis*, whitebark pine.

*Fomes pinicola* Fr., brown crumbly rot. General within range of host.
*Neopeckia coulteri* (Pk.) Sacc., brown felt-blight. Idaho, Calif.
*Polyporus schweinitzii* Fr., red-brown butt-rot.
*Razoumofskya cyanocarpa* (A. Nelson) P. A. Rydberg, mistletoe. Idaho, Mont.
*R. laricis* Piper, mistletoe. Mont.

*P. attenuata*, knobcone pine.

*Cronartium cerebrum* (Pk.) Hedgc. and Long, oak-rust. Calif.
*C. coleosporioides* (Diet. and Holw.) Arth., rust. Calif.
*Fomes pinicola* Fr., brown crumbly rot. General within range of host.
*Razoumofskya americana* (Nutt.) O. Kuntze, mistletoe. Oreg.
*R. campylopoda* (Engelm.) Piper, mistletoe. Pacific coast.

*P. banksiana*, jack pine.

*Coleosporium helianthi* (Schw.) Arth., rust. Mich.
*Corticium vagum* Berk. and Curt., damping-off. Nebr.
*Cronartium cerebrum* (Pk.) Hedgc. and Long, oak-rust. Conn., Mich., Minn.
*C. comptoniae* Arth., rust. Conn., Wis., Minn.
*C. pyriforme* (Pk.) Hedgc. and Long, rust. Minn.
*Lophodermium amplum* Davis, needle cast. Wis.
*L. pinastri* (Schrad.) Chev., needle cast. Wis., Minn.
*Polyporus schweinitzii* Fr., red-brown butt-rot. Minn.
*Pythium debaryanum* Hesse, damping-off.
*Razoumofskya americana* Nutt., mistletoe.

*P. caribaea*, slash pine.

*Coleosporium apocynaceum* Cke., rust. Fla.
*C. carneum* (Bosc) Jack., rust. Ga., Fla.
*C. delicatulum* (Arth. and Kern) Hedgc. and Long, rust. Fla., La.
*C. elephantopodis* (Schw.) Thuem., rust. Fla.
*C. ipomoeae* (Schw.) Burr., rust. Fla.
*Cronartium strobilinum* (Arth.) Hedgc. and G. Hahn, rust. Fla.

*P. contorta*, shore pine, and *P. murrayana*, lodgepole pine.

*Cenangium piniphilum* Weir, canker. Idaho.
*Coleosporium solidaginis* (Schw.) Thuem., rust. Colo., Mont., Idaho, Oreg., Wash.
*Cronartium coleosporioides* (Diet. and Holw.) Arth., rust. Colo., S. Dak., Mont., Idaho, Wyo., Wash., Calif.
*C. cerebrum* (Pk.) Hedgc. and Long, oak-rust. Wyo., Utah, Idaho.
*C. comptoniae* Arth., rust. Mich.
*C. filamentosum* (Pk.) Hedgc., pine-gall rust. Pacific Northwest.
*C. harknessii* (Moore) E. P. Meinecke, western pine-gall rust. Pacific coast; Idaho, Mont.
*C. pyriforme* (Pk.) Hedgc. and Long, rust. Mich., Colo., Mont., Wyo., Idaho.

**PINUS**—Continued.

*P. contorta*, shore pine, and *P. murrayana*, lodgepole pine—Continued.

*Fomes pinicola* Fr., brown crumbly rot. Mont., Idaho.
*F. roseus* (Alb. and Schw.) Fr., brown pocket rot. General in range of host.
*Hypoderma deformans* Weir, needle cast, witches'-broom. Oreg., Calif.
*H. lineare* (Pk.) Thuem., needle cast. Colo.
*Hypodermella montivaga* (Petr.) Dearn., needle cast. Idaho, Oreg.
*Lophodermium pinastri* (Schrad.) Chev., needle cast. Colo., Alaska.
*Neopeckia coulteri* (Pk.) Sacc., brown felt-blight. Colo., Utah, Idaho, Wash., Oreg.
*Peridermium betheli* Hedgc. and Long, rust. Colo.
*Polyporus schweinitzii* Fr., red-brown butt-rot. Idaho.
*P. sulphureus* (Bull.) Fr., brown-checked wood-rot.
*Razoumofskya americana* Nutt., mistletoe. Rocky Mt. region; Pacific Northwest; eastern Calif.
*Rhizina inflata* (Schaeff.) Sacc., seedling blight. Mont.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Mont., Idaho.

*P. echinata*, shortleaf pine.

*Coleosporium carneum* (Bosc) Jack., rust. Southeastern States.
*C. delicatulum* (Arth. and Kern) Hedgc. and Long, rust. Pa., Md., S. C., Ga.
*C. elephantopodis* (Schw.) Thuem., rust. Fla.
*C. helianthi* (Schw.) Arth., rust. Ga.
*C. inconspicuum* (Long) Hedgc. and Long, rust. Md., N. C., Ga.
*C. ipomoeae* (Schw.) Burr., rust. Pa., Va., N. C., S. C., Tenn., Ga., Ala., Ark., Tex.
*C. solidaginis* (Schw.) Thuem., rust. Del., Miss.
*C. terebinthinaceae* (Schw.) Arth., rust. Southeastern States.
*Cronartium cerebrum* (Pk.) Hedgc. and Long, oak-rust. Ark.
*C. comptoniae* Arth., sweet-fern rust. N. C.
*C. strobilinum* Arth., rust. Miss.
*Fomes pinicola* Fr., brown crumbly rot. General in host range.
*Lophodermium pinastri* (Schrad.) Chev., needle cast. Ala.
*Polyporus schweinitzii* Fr., red-brown butt-rot.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Mo.

*P. edulis*, nut pine.

*Coleosporium ribicola* (Cke. and Ell.) Arth., rust. Colo., N. Mex.
*Cronartium occidentale* Hedgc., Bethel, and Hunt, piñon blister rust. Colo., N. Mex., Utah.
*Fomes pinicola* Fr., brown crumbly rot. General within host range.
*Polyporus schweinitzii* Fr., red-brown butt-rot.
*Razoumofskya divaricata* (Engelm.) Coville, mistletoe. Colo., Utah, Calif
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot.

*P. jeffreyi*, Jeffrey pine.

*Cronartium comptoniae* Arth., sweet-fern rust.
*C. filamentosum* (Pk.) Hedgc. and Long, rust. Oreg.
*C. harknessii* (Moore) E. P. Meinecke, rust. Nev., Calif.
*Fomes pinicola* Fr., brown crumbly rot. General with host.
*Polyporus schweinitzii* Fr., red-brown butt-rot.
*P. sulphureus* (Bull.) Fr., brown-checked wood-rot.
*Razoumofskya americana* Nutt., mistletoe. Calif.
*R. campylopoda* (Engelm.) Piper, mistletoe. Calif.

*P. lambertiana*, sugar pine.

*Armillaria mellea* (Vahl) Quel., root-rot. Calif.
*Cronartium ribicola* Fisch., blister rust. N. Y.
*Fomes officinalis* Fr., reddish brown-rot. Calif.
*F. pinicola* Fr., brown crumbly rot. Calif.
*Lophodermium pinastri* (Schrad.) Chev., needle cast. Oreg.
*Polyporus schweinitzii* Fr., red-brown butt-rot.
*Razoumofskya cyanocarpa* (A. Nelson) P. A. Rydberg, mistletoe. Oreg., Calif.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Calif.

**PINUS**—Continued.

*P. monophylla*, singleleaf pine.

*Cronartium occidentale* Hedgc., Bethel, and Hunt, blister rust. Ariz., Calif.
*Fomes pinicola* Fr., brown crumbly rot. General within host range.
*Polyporus schweinitzii* Fr., red-brown butt-rot.
*Razoumofskya divaricata* (Engelm.) Coville, mistletoe. Ariz., Calif.

*P. montana*, Swiss mountain pine.

*Cronartium comptoniae* Arth., sweet-fern rust. N. H., Conn.
*Herpotrichia nigra* Hartig, matting.

*P. monticola*, western white pine.

*Cronartium ribicola* Fisch., blister rust. Wash.
*Dasyscypha fuscosanguinea* Rehm, canker. Mont., Idaho, Wash.
*Fomes officinalis* Fr., reddish brown-rot. Idaho.
*F. pinicola* Fr., brown crumbly rot.
*Hypoderma lineare* (Pk.) Thuem., needle cast. Pacific Northwest.
*Lophodermium pinastri* (Schrad.) Chev., needle cast. Wash., Idaho, Mont.
*Neopeckia coulteri* (Pk.) Sacc., brown felt-blight. Calif.
*Polyporus schweinitzii* Fr., red-brown butt-rot.
*P. sulphureus* (Bull.) Fr., brown-checked wood-rot.
*Razoumofskya cyanocarpa* (A. Nelson) P. A. Rydberg, mistletoe. Calif.
*Rhizina inflata* (Schaeff.) Sacc., seedling blight. Mont., Idaho.
*Scleroderris bacillifera* (Karst.) Sacc., branch canker. Wash., Oreg.
*Sparassis radicata* Weir, yellow root-rot. Mont., Pacific Northwest.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Idaho.

*P. nigra*, Austrian pine and Corsican pine.

*Coleosporium carneum* (Bosc) Jack., rust. Ohio.
*C. delicatulum* (Arth. and Kern) Hedgc. and Long, rust. Pa.
*C. solidaginis* (Schw.) Thuem., rust. Pa.
*Corticium vagum* Berk. and Curt., damping-off.
*Cronartium comptoniae* Arth., sweet-fern rust. Conn., Ohio.
*C. pyriforme* (Pk.) Hedgc. and Long, rust. Conn.
*Peridermium* sp., leaf-rust. Ohio, Nebr.
*Pythium debaryanum* Hesse, damping-off.

*P. palustris*, longleaf pine.

*Coleosporium apocynaceum* Cke., rust. Fla.
*C. carneum* (Bosc) Jack., rust. S. C. to Miss.
*C. delicatulum* (Arth. and Kern) Hedgc. and Long, rust. S. C., Ga., Fla., Miss.
*C. elephantopodis* (Schw.) Thuem., rust. N. C., S. C., Fla., Ala., Miss.
*C. inconspicuum* (Long) Hedgc. and Long, rust. S. C.
*C. ipomoeae* (Schw.) Burr., rust. S. C., Fla., Miss.
*C. laciniariae* Arth., rust. Ga., Fla.
*C. terebinthinaceae* (Schw.) Thuem., rust. S. C.
*Cronartium cerebrum* (Pk.) Hedgc. and Long, oak-rust. Ga.
*C. fusiforme* (Pk.) Hedgc. and Hunt, rust. Tex.
*C. strobilinum* Arth., pine-cone rust. Fla.
*Fomes pinicola* Fr., brown crumbly rot.
*Peridermium floridanum* Hedgc. and G. Hahn, rust. Fla.
*Polyporus schweinitzii* Fr., red-brown butt-rot.
*Septoria acicola* (Thuem.) Sacc., leaf-spot. La.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot.

*P. ponderosa*, western yellow pine.

*Botrytis cinerea* Auct., gray-mold. Utah.
*Cenangium abietis* (Pers.) Rehm, twig-blight. N. Mex., Ariz., Mont., Idaho, Wash., Oreg.
*C. piniphilum* Weir, canker. Mont., Idaho, Wash.
*Ceratostomella pilifera* (Fr.) Wint., bluing. S. Dak.
*Coleosporium carneum* (Bosc) Jack., rust. D. C., Ohio.
*C. delicatulum* Arth. and Kern, rust. D. C.
*C. solidaginis* (Schw.) Thuem., rust. Md.
*Corticium vagum* Berk. and Curt., damping-off. Nebr.
*Cronartium cerebrum* (Pk.) Hedgc. and Long, oak-rust. Pa., Wis., Nebr., Idaho.

**PINUS**—Continued.

*P. ponderosa*, western yellow pine—Continued.

*C. comptoniae* Arth., sweet-fern rust. Mass., N. H., Conn., Mich.
*C. filamentosum* (Pk.) Hedgc. and Long, rust. Colo., Mont., Ariz., Utah, Wash., Calif.
*C. harknessii* (Moore) E. P. Meinecke, rust. Idaho, Wash., Calif.
*C. pyriforme* (Pk). Hedgc. and Long, rust. Mont., Wyo., Colo., S. Dak., Ariz., Utah, Idaho; Pacific coast.
*C. stalactiforme* Arth., rust. Mont.
*Fomes officinalis* Fr., reddish brown-rot. S. Dak., Ariz., Wash.
*F. pinicola* Fr., brown crumbly rot. Western States.
*F. roseus* (Alb. and Schw.) Fr., brown pocket rot. General in host range.
*Fusarium* sp., damping-off. Vt., N. Y., N. J., Nebr.
*Hypoderma deformans* Weir, needle cast. Pacific Northwest and Mont.
*Lentinus* sp., red-brown heart-rot. Ariz.
*Lophodermium pinastri* (Schrad.) Chev., needle cast. Idaho, Oreg.
*Neopeckia coulteri* (Pk.) Sacc., brown felt-blight. Calif.
*Pestalozzia* sp., leaf-blight. N. Y., Nebr.
*Polyporus ellisianus* (Murr.) Long, red-rot. S. Dak., N. Mex., Ariz., Wash.
*P. ponderosus* Schrenk, red-rot. S. Dak.
*P. schweinitzii* Fr., red-brown butt-rot. Mont.
*P. sulphureus* (Bull.) Fr., brown-checked wood-rot.
*Pythium debaryanum* Hesse, damping-off.
*Razoumofskya americana* Nutt., mistletoe. Mont., Idaho, Oreg.
*R. campylopoda* (Engelm.) Piper, mistletoe. Northern Rocky Mt. States; Pacific Northwest.
*R. cryptopoda* (Engelm.) Coville, mistletoe. Rocky Mt. States.
*Rhizina inflata* (Schaeff.) Sacc., seedling blight. Mont.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. S. Dak., Mont., Oreg., Calif.

*P. pungens*, Table Mountain pine.

*Coleosporium solidaginis* (Schw.) Thuem., rust. Md.
*Cronartium pyriforme* (Pk.) Hedgc. and Long, rust. Pa., Northwestern States.

*P. radiata*, Monterey pine.

*Cronartium cerebrum* (Pk.) Hedgc. and Long, rust. Calif.
*Lophodermium pinastri* (Schrad.) Chev., needle cast. Calif.
*Razoumofskya campylopoda* (Engelm.) Piper, mistletoe. Calif.

*P. resinosa*, red pine.

*Coleosporium delicatulum* (Arth. and Kern) Hedgc. and Long, rust. Vt.
*C. solidaginis* (Schw.) Thuem., needle rust. N. H., Vt., N. Y., Pa., S. C., Minn.
*Corticium vagum* Berk. and Curt., damping-off. Conn., Mich., Minn.
*Cronartium comptoniae* Arth., sweet-fern rust. N. H.
*Fomes pinicola* Fr., brown crumbly rot. General within range of host.
*Fusoma parasiticum* Tub., damping-off. Minn.
*Polyporus schweinitzii* Fr., red-brown butt-rot.
*P. sulphureus* Fr., brown-checked wood-rot. Minn.
*Pythium debaryanum* Hesse, damping-off. Minn.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot.

*P. rigida*, pitch pine.

*Armillaria mellea* (Vahl) Quel., root-rot. Pa.
*Coleosporium campanulae* (Pers.) Lév., rust. Ohio.
*C. carneum* (Bosc) Jack., rust. Conn., Pa., D. C., Va., N. C., W. Va., Ohio, Ind.
*C. delicatulum* (Arth. and Kern) Hedgc. and Long, rust. New England, south to N. C.
*C. elephantopodis* (Schw.) Thuem., rust. D. C., N. C.
*C. ipomoeae* (Schw.) Burr., rust. Pa., Md., S. C., Ga.
*C. laciniariae* Arth., rust. N. J.
*C. solidaginis* (Schw.) Thuem., rust. Conn. to Md.
*C. terebinthinaceae* (Schw.) Arth., rust. N. C.
*Cronartium cerebrum* (Pk.) Hedgc. and Long, oak-rust. Mass., N. Y., N. J., Pa.

**PINUS**—Continued.

*P. rigida*, pitch pine—Continued.

*C. comptoniae* Arth., sweet-fern rust. New England, N. Y., Pa.
*C. pyriforme* (Pk.) Hedgc. and Long, rust. Vt., Conn., N. J., Northwestern States.
*Fomes pinicola* Fr., brown crumbly rot. General within range of host.
*Hypoderma brachysporum* (Rostr.) Tub., needle cast. Mass.
*Lophodermium pinastri* (Schrad.) Chev., needle cast. R. I., N. J.
*Pestalozzia funerea* Desm., leaf-blight. Mass.
*Polyporus schweinitzii* Fr., red-brown butt-rot.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Me., N. J., Ala., Ky.

*P. sabiniana*, digger pine.

*Cronartium cerebrum* (Pk.) Hedgc. and Long, oak-rust. Calif.
*C. harknessii* (Moore) E. P. Meinecke, rust. Calif.
*Razoumofskya campylopoda* (Engelm.) Piper, mistletoe. Calif.

*P. serotina*, pond pine.

*Coleosporium carneum* (Bosc) Jack., rust. S. C., Fla., Ga.
*C. delicatulum* (Arth. and Kern) Hedgc. and Long, rust. N. J., S. C., Ga., Fla.
*C. elephantopodis* (Schw.) Thuem., rust. Fla.
*C. ipomoeae* (Schw.) Burr., rust. S. C.
*C. solidaginis* (Schw.) Thuem., rust. N. C., S. C.
*C. terebinthinaceae* (Schw.) Arth., rust. S. C.

*P. strobus*, white pine.

*Armillaria mellea* (Vahl) Quel., root-rot. Pa.
*Cenangium abietis* (Pers.) Rehm, canker. Ohio.
*Coccomyces pini* (Alb. and Schw.) Karst., bark-blight. Ga.
*Corticium vagum* Berk. and Curt., damping-off. Conn., Mass., N. Y., Minn.
*Cronartium cerebrum* (Pk.) Hedgc. and Long, oak-rust. Ga.
*C. ribicola* Fisch., blister rust. Me. to Minn., south to N. J. and Pa.
*Cytospora* sp. Pa.
*Fomes roseus* (Alb. and Schw.) Fr., brown pocket rot. General in host range.
*Fusarium* sp., damping-off. Vt., N. Y., Iowa.
*Fusoma parasiticum* Tub., damping-off. Minn.
*Hendersonia foliicola* (Berk.) Fckl., leaf-spot. Mass.
*Hypoderma lineare* (Pk.) Thuem., needle cast. N. Y., Pa.
*H. strobicola* Tub., needle cast. New England, Pa., N. C.
*Lophodermium pinastri* (Schrad.) Chev., needle cast. New England, Pa., Wis.
*Nectria cucurbitula* Fr., canker. Vt., Pa.
*Pestalozzia* sp., leaf-blight. Vt., Mass., N. Y.
*Phoma harknessii* Sacc., canker. Conn., Mass., N. Y.
*Polyporus berkeleyi* Fr., string and ray rot. Minn.
*P. ellisianus* (Murr.) Long, red-rot. Vt.
*P. schweinitzii* Fr., red-brown butt-rot. Me.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. N. H., Pa., N. C., Minn.

*P. sylvestris*, Scotch pine.

*Coleosporium sonchi-arvensis* (Pers.) Lév., rust. Wis.
*Corticium vagum* Berk. and Curt., damping-off. Conn.
*Cronartium cerebrum* (Pk.) Hedgc. and Long, oak-rust. Pa.
*C. comptoniae* Arth., rust. N. H., Mass., N. Y., Ohio.
*C. pyriforme* (Pk.) Hedgc. and Long, rust. Conn.
*Cytospora pinastri* Fr., needle blight. Pa.
*Fusoma parasiticum* Tub., damping-off. Minn.
*Pestalozzia* sp., leaf-blight. Vt., Nebr.
*Phytophthora cactorum* (Leb. and Cohn) Schroet., damping-off. Minn.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. N. J.

**PINUS**—Continued.

*P. taeda*, loblolly pine.

*Coleosporium apocynaceum* Cke., rust. Fla.
*C. carneum* (Bosc) Jack., rust. Southeastern States, N. J., Ark.
*C. delicatulum* (Arth. and Kern) Hedgc. and Long, rust. Va., N. C., S. C., Fla., Tex.
*C. elephantopodis* (Schw.) Thuem., rust. South Atlantic and Gulf States.
*C. ipomoeae* (Schw.) Burr., rust. Southeastern States.
*C. laciniariae* Arth., rust. Fla.
*C. pini* Gall., rust. Md.
*C. solidaginis* (Schw.) Thuem., rust. Southeastern States.
*C. terebinthinaceae* (Schw.) Arth., rust. S. C., Ala.
*Cronartium cerebrum* (Pk.) Hedgc. and Long, oak-rust. Fla., Ala., Miss., La.
*C. comptoniae* Arth., sweet-fern rust. N. J., Ga.
*C. pyriforme* (Pk.) Hedgc. and Long, rust. N. J.
*Fomes annosus* Fr., white spongy rot. New England.
*F. pinicola* Fr., brown crumbly rot.
*Lophodermium pinastri* (Schrad.) Chev., needle cast. La.
*Peridermium minutum* Hedgc. and Hunt, rust. Fla.
*Polyporus schweinitzii* Fr., red-brown butt-rot.
*Septoria acicola* (Thuem.) Sacc., leaf-spot. Fla.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot.

*P. virginiana*, scrub pine.

*Coleosporium helianthi* (Schw.) Arth., rust. Pa. to Ga.
*C. inconspicuum* (Long) Hedgc. and Long, rust. Md. to Ga.
*C. pini* Gall., rust. Middle Atlantic States, Tenn.
*Cronartium cerebrum* (Pk.) Hedgc. and Long, oak-rust. Pa. to Ala.
*C. comptoniae* Arth., sweet-fern rust. Md.
*Fomes pinicola* Fr., brown crumbly rot.
*F. roseus* (Alb. and Schw.) Fr., brown pocket rot.
*Lophodermium pinastri* (Schrad.) Chev., needle cast. Md.
*Polyporus schweinitzii* Fr., red-brown butt-rot.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Md., Ga.

**PISUM.**

*P. sativum*, pea.

*Aphanomyces euteiches* Drechs., root-rot. Conn., N. Y., Pa., N. J., Del., Md., Ohio, Ind., Ill., Mich., Wis., Mont., Utah, Idaho, Calif.
*Bacillus lathyri* Manns and Taub., bacterial streak. Del.
*Bacterium pisi* (W. G. Sackett) EFS. (*Phytomonas pisi* (Sack.) Com. S. A. B.), bacterial blight. N. Y., Pa., Del., Md., S. C., Fla., Ill., Ind., Mich., Wis., N. Dak., Colo., Mont., Oreg.
*Colletotrichum pisi* Pat., anthracnose. Wis.
*Corticium vagum* Berk. and Curt., stem-rot. Widespread.
*Erysiphe polygoni* DC., powdery mildew. General.
*Fusarium martii minus* Sherb., stem-rot. Widespread.
*F. martii pisi* F. R. Jones, root-rot. Widespread.
*Heterodera radicicola* (Greef) Muell., root-rot. Southern States, Calif.
*Isariopsis griseola* Sacc., leaf-spot. R. I.
*Mycosphaerella pinodes* (Berk. and Blox.) R. E. Stone (*Ascochyta pisi* Lib.), blight. General.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Peronospora viciae* (Berk.) D By., downy mildew. N. Y., Pa., Del., Md., Tenn., Wis., Iowa, Kans., Oreg., Calif.
*Phytophthora cactorum* (Leb. and Cohn) Schroet., blight. Conn.
*Pythium* spp., root-rot. Conn., Del., Ill., Mich., Wis., Mont.
*Sclerotinia sclerotiorum* (Lib.) Mass., stem-rot. Pa., Del., Fla.
*Septoria flagellifera* Ell. and Ev., leaf-spot. Wis., S. Dak.
*S. pisi* West., leaf-spot. North of Ohio and Missouri Rivers; Tex., Mont., Colo., Calif.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. Conn., N. Y., Pa., Md., Ark.
*Uromyces fabae* (Pers.) D By., rust. Minn., N. Dak., Nebr.

**PLATANUS.**

*Platanus* sp., *sycamore, planetree.

*Armillaria mellea* (Vahl) Quel., root-rot. Md., W. Va.
*Cercospora platanicola* Ell. and Ev., leaf-spot. Ga., La.
*Gnomonia veneta* (Sacc. and Speg.) Kleb., anthracnose. General.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. East of Great Plains.
*Phleospora multimaculans* Heald and Wolf, leaf-blight. Tex.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Calif.
*Phyllosticta platani* Sacc. and Speg., leaf-spot. Ala., Kans.
*Septoria platanifolia* Cke., leaf-spot. Md., S. C.
*Stigmina platani* (Fckl.) Sacc., leaf-spot. W. Va., Ga., Miss., Okla., Ark., Ind., Ill., Mo., Calif.

**POA.**

*P. compressa*, Canada bluegrass.

*Erysiphe graminis* DC., powdery mildew. Minn.
*Ophiobolus graminis* Sacc., take-all. N. Y.
*Puccinia coronata* Cda., crown-rust. Mo., Kans.
*P. epiphylla* Wetts., rust. Minn., Colo.
*P. graminis* Pers., stem-rust. Pa., Ind., Mich.
*Scolecotrichum graminis* Fckl., leaf-spot. Wis., Minn., Nebr.

*P. pratensis*, Kentucky bluegrass.

*Claviceps microcephala* (Wallr.) Karst., ergot. Ind.
*C. purpurea* (Fr.) Tul., ergot. Ky., Ill., Minn.
*Colletotrichum graminicolum* (Ces.) Wils., anthracnose. Ohio, Ind., Minn.
*Corticium vagum* Berk. and Curt., brown-patch. General.
*Entyloma irregulare* Johans., smut. Ill., Minn.
*Epichloe typhina* (Pers.) Tul. Del.
*Erysiphe graminis* DC., powdery mildew. General, especially east of Great Plains.
*Helminthosporium vagans* Drechs., leaf-spot. New England, N. Y., Pa., Md., Ill., Wis.
*Phyllachora graminis* (Pers.) Fckl., tar-spot. Nebr.
*Puccinia glumarum* (Schm.) Eriks. and Henn., stripe-rust. Idaho.
*P. epiphylla* Wetts., rust. General.
*P. triticina* Eriks., leaf-rust. Colo.
*Sclerotium* sp., damping-off.
*Scolecotrichum graminis* Fckl. Pa., Ind., Minn.
*Septoria* sp., leaf-blotch. Pa., Ind., Wis., Minn.
*Uromyces poae* Rabh., rust. Ind.
*Ustilago striaeformis* (West.) Niessl, stripe-smut. General.

**POINCIANA.**

*P. regia*, royal poinciana.

*Gloeosporium* sp., anthracnose. Fla.

**POPULUS.**

*Populus* spp., poplar, cottonwood, aspen.

*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Conn., N. J., Minn., Kans., Wyo., Utah.
*Cercospora populina* Ell. and Ev., leaf-spot. Ala., La.
*Cladosporium subsessile* Ell. and Barth., leaf-spot. Wis.
*Cytospora chrysosperma* (Pers.) Fr., canker. General.
*Dimerosporium populi* Ell. and Ev., sooty mold. Mont.
*Dothichiza populea* Sacc. and H. Briard, canker. General east of Great Plains.
*Fomes applanatus* (Pers.) Wallr. (*Ganoderma applanatum* (Pers.) Pat.), white-streaked rot. Conn., Minn., N. Dak., S. Dak., N. Mex.
*F. everhartii* (Ell. and Gall.) Schrenk, white-rot. Mont.
*F. fomentarius* (L.) Fr., white sapwood rot. Minn.
*F. igniarius* (L.) Fr., white heart-rot. General.
*Hypoxylon pruinatum* (Klotzsch) Cke., canker. Me., N. Y., Mich.
*Marssonia brunnea* (Ell. and Ev.) Sacc., anthracnose. N. J., Wis., Wash.
*M. curvata* Bub. and Kab., leaf-spot. Utah.
*M. populi* (Lib.) Magn., leaf-spot. Wis.

**POPULUS**—Continued.

*Populus* spp., poplar, cottonwood, aspen—Continued.

*M. rhabdospora* (Ell. and Ev.) Magn., leaf-spot. N. J., Wis.
*Melampsora abietis-canadensis* (Farl.) F. Ludwig, rust. General.
*M. albertensis* Arth., rust. Western States.
*M. larici-populina* Kleb., rust. General.
*M. medusae* Thuem., rust. General.
*M. occidentalis* Jack., rust. Western States; Wis.
*Napicladium tremulae* (Frank) Sacc., twig-blight. Minn.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Southwest.
*P. flavescens macrophyllum* Engelm., mistletoe. N. Mex., Ariz.
*Phyllosticta alcides* Sacc., leaf-spot. Ohio, Idaho.
*P. brunnea* Dearn. and Barth., leaf-spot. Mont., Colo., Ariz.
*P. intermixta* Seaver, leaf-spot. Kans.
*P. maculans* Ell. and Ev., leaf-spot. N. Y., Kans.
*Polyporus dryadeus* (Pers.) Fr., white root-rot.
*P. dryophilus* Berk., white pocket heartwood rot. Me., N. H., Wis., Colo.
*Rhytisma nervale* (Alb. and Schw.) Rehm, tar-spot. N. Y.
*Sclerotium bifrons* Ell. and Ev., leaf-spot. New England and Adirondack region; Wis., Wyo., Colo., Utah, Oreg.
*Septoria musiva* Pk., leaf-spot. Widespread.
*S. populicola* Pk., leaf-spot. Nebr., Tex.
*Stereum purpureum* Fr., silver-leaf. Wash.
*Taphrina aurea* (Pers.) Fr., yellow leaf blister. Me., Mass., N. Y., N. J., Iowa; Pacific coast.
*Trochila popularum* Desm., leaf-spot. Widespread.
*Uncinula salicis* (DC.) Wint., powdery mildew. General.
*Venturia tremulae* Aderh., scab. Me., Wash.

**PRIMULA.**

*Primula* sp., primrose.

*Botrytis cinerea* Auct., gray-mold. Conn., S. C., Ohio.
*Heterodera radicicola* (Greef) Muell., root-knot. Conn., W. Va.
*Ramularia primulae* Thuem., leaf-spot. Conn., N. Y., Del.
Mosaic, undet. Pa. (greenhouse).

**PROSOPIS.**

*Prosopis* sp., prairie mesquite.

*Cercospora prosopidis* Heald and Wolf, leaf-blight. Tex.
*Erysiphe* sp., powdery mildew. Tex.
*Gloeosporium leguminum* Cke., pod-spot, anthracnose. Tex.
*Neoravenelia holwayi* (Diet.) Long, rust. Tex., Calif.
*Phoradendron californicum* Nutt., mistletoe. Tex., Ariz., Calif.
*P. flavescens* (Pursh) Nutt., mistletoe. Tex.
*P. flavescens macrophyllum* Engelm., mistletoe. Ariz., N. Mex.
*Phyllosticta juliflora* Ell. and Barth., leaf-spot. Tex.
*Ravenelia arizonica* Ell. and Ev., rust. Tex., Ariz., Calif.

**PRUNUS.**

*Prunus* sp., cherries (sweet and sour).

*Armillaria mellea* (Vahl) Quel., root-rot. Ohio, Mich., Ark., Pacific coast.
*Bacillus amylovorus*(Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. Ohio, Mich., Kans., N. Mex., Wash.
*Bacterium cerasi* F. L. Griffin, bacterial gummosis. Okla., Ind., Mich., Idaho; Pacific coast.
*B. pruni* EFS. (*Phytomonas pruni* (EFS.) Com. S. A. B.), bacterial spot. N. Y., Ala., Okla., Ill.
*B. tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Mass., N. Y., Okla., Ohio, N. Mex., Colo.; Pacific Northwest.
*Cercospora cerasella* Sacc., leaf-spot. Ga., Fla., Ala., Miss.
*C. circumscissa* Sacc., shot-hole. Widespread.
*C. rosicola* Pass., leaf-spot. Oreg.

**PRUNUS**—Continued.

*Prunus* sp., cherries (sweet and sour)—Continued.

*Cladosporium carpophilum* Thuem., scab. Me., N. H., N. Y., Mich., Iowa, Oreg.
*Clitocybe parasitica* E. M. Wilcox, root-rot. Ark.
*Coccomyces hiemalis* Hig., leaf-spot. General.
*Coryneum beijerinckii* Oud., blight. Pacific coast, Idaho, Utah.
*Exoascus cerasi* (Fckl.) Sadeb., witches'-broom. North Atlantic Coast States; Tenn., Pacific coast.
*E. pruni* Fckl., pockets. Minn.
*Fomes applanatus* (Pers.) Wallr. (*Ganoderma applanatum* (Pers.) Pat.), white-streaked rot. N. Y.
*Phyllosticta prunicola* Sacc., leaf-spot. Wis., Minn.
*Plowrightia morbosa* (Schw.) Sacc., black-knot. East of Great Plains.
*Podosphaera oxyacanthae* (Fr.) D By., powdery mildew. General.
*Polyporus sulphureus* (Bull.) Fr., brown-checked wood-rot.
*Schizophyllum commune* Fr., sap-rot. Ohio, Minn., Nebr.
*Sclerotinia fructicola* (Wint.) Rehm (*S. americana* (Wormald) Norton and Ezekiel), brown-rot. General.
*Stereum purpureum* Fr., associated with silver-leaf. N. Y., Minn., Oreg.
*Tranzschelia punctata* (Pers.) Arth., rust. Miss., Mich., Nebr., Calif.
*Valsa leucostoma* (Pers.) Fr., die-back. Ohio, Mo.
*Venturia cerasi* Aderh., scab. Ind.

*P. avium*, sweet cherry.

*Alternaria* sp., fruit-rot. Mich., Idaho.
*A. citri cerasi* B. A. Rudolph, leaf-spot. Calif.
*Armillaria mellea* (Vahl) Quel., root-rot. Pacific coast.
*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. Wash.
*Bacterium cerasi* F. L. Griffin, bacterial gummosis. Oreg., Calif.
*B. pruni* EFS. (*Phytomonas pruni* (EFS.) Com. S. A. B.), bacterial spot. N. Y., Mich.
*Cercospora cerasella* Sacc., leaf-spot. Ga., Ala.
*C. circumscissa* Sacc., shot-hole. N. J., Pa., Ohio.
*Coccomyces hiemalis* Hig., leaf-spot. N. Y., Pa., Md., Wash., Oreg.
*Coryneum beijerinckii* Oud., blight. Pacific Northwest.
*Exoascus cerasi* (Fckl.) Sadeb., witches'-broom. N. Y., Wash., Oreg., Alaska.
*E. communis* Sadeb., pockets. Iowa.
*E. pruni* Fckl., pockets. Okla.
*Physalospora malorum* (Pk.) Shear (*P. cydoniae* Am. Auct.) black-rot. East of Rocky Mts.
*Plowrightia morbosa* (Schw.) Sacc., black-knot. N. Y., Mich.
*Podosphaera oxyacanthae* (DC.) D By., powdery mildew. N. Y., Md., Iowa, Wash.
*Polyporus lacteus* Fr., heart-rot. Oreg.
*Sclerotinia cinerea* (Bon.) Schroet. (*Monilia oregonensis* Barss and Posey), blossom blight. Pacific coast.
*S. fructicola* (Wint.) Rehm (*S. americana* (Wormald) Norton and Ezekiel), brown-rot. General.
*Tranzschelia punctata* (Pers.) Arth., rust. Okla.

*P. cerasus*, sour cherry.

*Alternaria* sp., fruit-rot. Mich.
*Bacterium pruni* EFS. (*Phytomonas pruni* (EFS.) Com. S. A. B.), bacterial spot. N. Y.
*Cercospora cerasella* Sacc., leaf-spot. Ala.
*Coccomyces hiemalis* Hig., leaf-spot. General east of Great Plains and north of Ky. and Va.
*Exoascus cerasi* (Fckl.) Sadeb., witches'-broom. Md., Wis.
*E. communis* Sadeb., pockets. Iowa.
*Phyllosticta prunicola* Sacc., leaf-spot.
*Podosphaera oxyacanthae* (DC.) D By., powdery mildew. General.
*Plowrightia morbosa* (Schw.) Sacc., black-knot. N. Y., Pa., Md., Va., W. Va., N. C.
*Sclerotinia fructicola* (Wint.) Rehm (*S. americana* (Wormald) Norton and Ezekiel), brown-rot. N. J., Ind.

**PRUNUS**—Continued.

*P. besseyi, P. cuneata, P. pumila*, sand cherry.

*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Minn.
*Exoascus communis* Sadeb., pockets. N. Y., Wis., N. Dak., S. Dak., Kans.
*Plowrightia morbosa* (Schw.) Sacc., black-knot. N. Dak.
*Podosphaera oxyacanthae* (DC.) D By., powdery mildew. Iowa, N. Dak., S. Dak., Nebr.
*Sclerotinia cinerea* (Bon.) Schroet. (*Monilia oregonensis* Barss and Posey), blossom blight. Wash., Oreg.
*S. fructicola* (Wint.) Rehm (*S. americana* (Wormald) Norton and Ezekiel), brown-rot. Minn., Nebr.
*Tranzschelia punctata* (Pers.) Arth., rust. Nebr., Kans.

*P. pennsylvanica*, pin cherry.

*Coccomyces hiemalis* Hig., leaf-spot. N. Y., W. Va.
*Exoascus cerasi* (Fckl.) Sadeb., witches'-broom. N. H.
*Phyllosticta congesta* Heald and Wolf, leaf-spot, Wis.
*Physalospora malorum* (Pk.) Shear (*P. cydoniae* Am. Auct.), black-rot.
*Plowrightia morbosa* (Schw.) Sacc., black-knot. Me., W. Va., Minn.
*Podosphaera oxyacanthae* (DC.) D By., powdery mildew. Ill.
*Tranzschelia punctata* (Pers.) Arth., rust. Ill.

*P. serotina*, wild black cherry.

*Coccomyces hiemalis* Hig., leaf-spot. Widespread east of Great Plains.
*C. lutescens* Hig., leaf-blight. N. Y., Pa., Ga., Miss., Ill.
*Exoascus cerasi* (Fckl.) Sadeb., witches'-broom. Mass., Ala.
*E. farlowii* Sadeb., leaf-curl. Ala.
*E. pruni* Fckl., pockets. Va., Ala.
*E. varius* Atk., leaf deformation. Del., Fla., Ala.
*Fomes fomentarius* (L.) Fr., white sapwood rot.
*Gloeosporium serotinum* Ell. and Ev., leaf-spot. Del.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Ind.
*Phyllosticta prunicola* Sacc., leaf-spot. N. Y., Wis.
*P. serotina* Cke., leaf-spot. Widespread east of Great Plains.
*P. virginiana* (Ell. and Hals.) Seaver, leaf-spot. Iowa, Kans.
*Plowrightia morbosa* (Schw.) Sacc., black-knot. Widespread east of Miss. River.
*Podosphaera oxyacanthae* (DC.) D By., powdery mildew. N. Y., Ill.
*Sclerotinia fructicola* (Wint.) Rehm (*S. americana* (Wormald) Norton and Ezekiel), brown-rot. S. C.
*S. seaveri* Rehm. N. Y., Pa., Del., Md., Va., W. Va., Ga., Wis., Iowa.
*Septoria cerasina* Pk., leaf-spot. Mass.
*S. ravenelii* Thuem., leaf-spot. Pa., N. J., S. C., Ill.
*Tranzschelia punctata* (Pers.) Arth., rust. S. C., Ala., Tex., Ind., Ill., Iowa, Mo.
*Valsa leucostoma* (Pers.) Fr., die-back. N. Y.

*P. virginiana, P. demissa*, chokecherry.

*Bacterium pruni* EFS. (*Phytomonas pruni* (EFS.) Com. S. A. B.), bacterial spot. N. Y.
*Cercospora cerasella* Sacc., leaf-spot. Kans.
*C. circumscissa* Sacc., shot-hole. N. Dak., Kans.
*Coccomyces hiemalis* Hig., leaf-spot. Widespread in northern United States.
*C. lutescens* Hig., leaf-blight. N. Y., Wash.
*Cylindrosporium tubeufianum* Allesch., leaf-spot. N. Y.
*Cytospora chrysosperma* (Pers.) Fr., canker. Mont.
*Exoascus cerasi* (Fckl.) Sadeb., witches'-broom. Nebr., Colo.
*E. confusus* Atk., fruit deformation. Mass.
*E. farlowii* (Sadeb.) Sacc., leaf-curl. Wash.
*E. pruni* Fckl., pockets. N. Dak., Wash.
*Gloeosporium prunicolum* Ell. and Ev., leaf-spot. Wis.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Wash.
*Phyllosticta circumscissa* Cke., leaf-spot. Kans., Wash.
*P. prunicola* Sacc., leaf-spot. N. Y.
*P. virginiana* (Ell. and Hals.) Seaver, leaf-spot. Wis., Iowa, Kans., Mont.
*Physalospora malorum* (Pk.) Shear (*P. cydoniae* Am. Auct.), black-rot.

**PRUNUS**—Continued.

*P. virginiana, P. demissa,* chokecherry—Continued.

*Plowrightia morbosa* (Schw.) Sacc., black-knot. Widespread in Northern States.
*Podosphaera oxyacanthae* (DC.) D By., powdery mildew. Widespread in Northern States.
*Sclerotinia angustior* Rehm. N. Y., Pa., Iowa, N. Dak.
*S. demissa* B. F. Dana, blight. Idaho, Wash.
*S. fructicola* (Wint.) Rehm (*S. americana* (Wormald) Norton and Ezekiel), brown-rot. Conn., Fla., Kans.
*Septogloeum nuttallii* Hark., leaf-spot. Oreg.
*Tranzschelia punctata* (Pers.) Arth., rust. S. C., Mich., Ill.

*P. armeniaca,* apricot.

*Armillaria mellea* (Vahl) Quel., root-rot. Calif.
*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. Pa., Tex., Nebr., Colo.
*Bacterium cerasi* F. L. Griffin, bacterial gummosis. Calif.
*B. pruni* EFS. (*Phytomonas pruni* (EFS.) Com. S. A. B.), bacterial spot. Ill., Nebr.
*B. tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Colo., Ariz., Idaho, Pacific coast.
*Botrytis cinerea* Auct., fruit-rot. Calif.
*Cercospora circumscissa* Sacc., shot-hole. Tex., Calif.
*Cladosporium carpophilum* Thuem., scab. Widespread.
*Coccomyces* sp., leaf-spot. Mass., Tex.
*Coryneum beijerinckii* Oud., blight. Utah, Idaho, Pacific coast.
*Heterodera radicicola* (Greef) Muell., root-knot. Ariz.
*Monilia* sp., blossom blight. Calif.
*Monochaetia rosenwaldia* A. Khazanoff, tumor. Calif.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Ariz.
*Phyllosticta circumscissa* Cke., shot-hole. Calif.
*Plowrightia morbosa* (Schw.) Sacc., black-knot. N. Y., Colo.
*Sclerotinia cinerea* (Bon.) Schroet. (*Monilia oregonensis* Barss and Posey), blossom blight. Wash., Oreg.
*S. fructicola* (Wint.) Rehm (*S. americana* (Wormald) Norton and Ezekiel), brown-rot. Mass., Conn., N. Y., Md., Ohio, Ind., Ill., Tex., Okla., Colo., Pacific coast.
*S. sclerotiorum* (Lib.) Mass., green-rot. Calif.
*Septoria cerasina* Pk., leaf-spot. Calif.
*Tranzschelia punctata* (Pers.) Arth., rust. Miss., Tex., Calif.
*Valsa leucostoma* (Pers.) Fr., twig-blight. Tex.
*Verticillium* sp., wilt. Calif.

*P. domestica* (in part), prune.

*Armillaria mellea* (Vahl) Quel., root-rot. Pacific coast.
*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. Pacific Northwest.
*Bacterium cerasi* F. L. Griffin, bacterial gummosis. Pacific coast.
*B. pruni* EFS. (*Phytomonas pruni* (EFS.) Com. S. A. B.), bacterial spot. N. Y., Pa.
*B. tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Pacific Northwest; Calif.
*Cercospora circumscissa* Sacc., shot-hole. Wash.
*Cladosporium carpophilum* Thuem., scab. Ohio, Nebr., Pacific Northwest.
*Coccomyces prunophorae* Hig., leaf-spot. N. Y., Del., Nebr., Pacific coast.
*Coryneum beijerinckii* Oud., blight. Wash., Oreg.
*Exoascus pruni* (Berk.) Fckl., pockets. Nebr.
*Plowrightia morbosa* (Schw.) Sacc., black-knot. Mich., Nebr.
*Sclerotinia cinerea* (Bon.) Schroet. (*Monilia oregonensis* Barss and Posey), blossom blight. Wash., Oreg.
*S. fructicola* (Wint.) Rehm (*S. americana* (Wormald) Norton and Ezekiel), brown-rot. Widespread.
*Tranzschelia punctata* (Pers.) Arth., rust. Nebr., Kans., Tex., Oreg., Calif.

**PRUNUS**—Continued.

*Prunus* spp., plum.

*Armillaria mellea* (Vahl) Quel., root-rot. Minn., N. Dak., Tex., Calif.
*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. Vt., N. J., Pa., Miss., Tex., Ohio, Mich., S. Dak., Nebr., Colo., Ariz., Wash.
*Bacterium cerasi* F. L. Griffin, bacterial gummosis. Tex., Kans., Ariz., Calif.
*B. pruni* EFS. (*Phytomonas pruni* (EFS.) Com. S. A. B.), bacterial spot. General east of Great Plains.
*B. tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Occurs in widely scattered States.
*Botrytis cinerea* Auct., fruit-rot. Wash.
*Cercospora circumscissa* Sacc., shot-hole. N. Y., Kans., Wash.
*Cladosporium carpophilum* Thuem., scab. Widespread.
*Coccomyces prunophorae* Hig., leaf-spot. General.
*Coryneum beijerinckii* Oud., blight. Pacific coast, Idaho.
*Diplodia pruni* Fckl., twig-blight. Fla.
*Exoascus communis* Sadeb., pockets. Iowa.
*E. mirabilis* Atk., hypertrophy. Widespread east of Great Plains.
*E. pruni* (Berk.) Fckl., pockets. General.
*Fomes fulvus* Fr., brown heartwood rot. Minn., Nebr.
*F. pinicola* Fr., brown crumbly rot. Oreg.
*Heterodera radicicola* (Greef) Muell., root-knot. S. C.
*Lasiodiplodia triflorae* Hig., wilt. Md., Va., Ga.
*Lenzites saepiaria* Fr., dry-rot. Oreg.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Ariz.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Calif.
*Phyllosticta circumscissa* Cke., shot-hole. N. J., Ga., Wash.
*P. congesta* Heald and Wolf, blotch. Ga., Tex.
*P. prunicola* Sacc., leaf-spot. Minn.
*Plowrightia morbosa* (Schw.) Sacc., black-knot. General except Pacific coast.
*Podosphaera oxyacanthae* (DC.) D By., powdery mildew. Widespread east of Great Plains.
*Polyporus lacteus* Fr., heart-rot. Va., Ind., Wash., Oreg.
*Polystigma rubrum* (Pers.) DC., red leaf-spot.
*Pythiacystis citrophthora* E. H. and R. E. Smith, brown-rot. Calif.
*Schizophyllum commune* Fr., sap-rot. Minn., Nebr.
*Sclerotinia fructicola* (Wint.) Rehm (*S. americana* (Wormald) Norton and Ezekiel), brown-rot. General.
*Septobasidium* sp., canker. Fla.
*S. retiforme* (Berk. and Curt.) Pat., canker. Ala., Fla.
*Septoria cerasina* Pk., leaf-spot. Mass.
*Trametes carnea* (Nees) Cke., wood-rot. Oreg.
*Tranzschelia punctata* (Pers.) Arth., rust. Widespread.
*Valsa leucostoma* (Pers.) Fr., die-back. Pa., S. C., Tex., Ohio, Mo., Colo., Idaho.

*P. americana*, American wild plum.

*Cercospora circumscissa* Sacc., shot-hole. Nebr.
*C. prunicola* Ell. and Ev., leaf-spot. Ala., La.
*Cladosporium carpophilum* Thuem., scab. Wis., Iowa, Calif.
*Coccomyces prunophorae* Hig., shot-hole. Ind., S. Dak.
*Exoascus cerasi* (Fckl.) Sadeb., witches'-broom. Ill., Iowa.
*E. communis* Sadeb., pockets. General over range of host.
*E. decipiens* Atk., leaf-curl. Mont.
*E. mirabilis* Atk., hypertrophy. Miss.
*E. pruni* Fckl., pockets. N. Dak., Iowa, Miss.
*Fomes fulvus* Fr., brown heartwood rot. Ohio, Ind., N. Dak., S. Dak., Nebr., Kans.
*Phyllosticta circumscissa* Cke., leaf-spot. Ill.
*P. virginiana* (Ell. and Hals.) Seaver, leaf-spot. Kans.
*Plowrightia morbosa* (Schw.) Sacc., black-knot. General over range of host.
*Podosphaera oxyacanthae* (DC.) D By., powdery mildew. General over range of host.
*Sclerotinia fructicola* (Wint.) Rehm (*S. americana* (Wormald) Norton and Ezekiel), brown-rot. N. Y., Va., Miss., Iowa.

**PRUNUS**—Continued.

*P. americana*, American wild plum—Continued.

*Septoria pruni* Ell., leaf-spot. Ky., Kans.
*S. purpureocincta* Ell. and Ev., leaf-spot. Kans.
*Tranzschelia punctata* (Pers.) Arth., rust. General over range of host.

**PSEUDOTSUGA.**

*P. douglasii*, Douglas fir.

*Botrytis cinerea* Auct., gray-mold twig-blight. Conn.
*Corticium vagum* Berk. and Curt., damping-off. Colo.
*Echinodontium tinctorium* Ell. and Ev., brown stringy rot. Utah, Mont., Idaho.
*Fomes officinalis* Fr., reddish brown-rot. Mont.
*F. pinicola* Fr., brown crumbly rot. Western States.
*F. roseus* (Alb. and Schw.) Fr., brown pocket rot. Ariz., Wash.
*Melampsora albertensis* Arth., rust. Mont., Colo., Utah, Wash.
*Phacidium infestans* Karst., needle blight. Idaho.
*Polyporus schweinitzii* Fr., red-brown butt-rot. Mont., Idaho, Wash., Oreg.
*P. sulphureus* (Bull.) Fr., brown-checked wood-rot. Idaho, Wash.
*Pythium debaryanum* Hesse, damping-off.
*Razoumofskya douglasii* (Engelm.) O. Kuntze, mistletoe. Colo., Pacific Northwest.
*Rhabdocline pseudotsugae* Syd., needle cast. Oreg.
*Sparassis radicata* Weir, yellow root-rot. Mont., Pacific Northwest.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Mont., Wyo., Idaho, Wash.

**PSIDIUM.**

*P. guajava*, guava.

*Clitocybe monadelpha* (Morgan) Sacc., root-rot. Fla.
*Colletotrichum* sp., die-back. Fla.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, ripe-rot. Fla.

**PTELEA.**

*P. trifoliata*, hoptree.

*Cercospora afflata* Wint., leaf-spot. Mo.
*C. pteleae* Wint., leaf-spot. Ind., Mo.
*Phleospora pteleae* Tharp. Utah.
*Puccinia windsoriae* Schw., rust. Scatteringly throughout range of host.
*Septoria pteleae* Ell. and Ev., leaf-spot. Ind.

**PUNICA.**

*P. granatum*, pomegranate.

*Cercospora lythracearum* Heald and Wolf, leaf-spot. Tex.
*Heterodera radicicola* (Greef) Muell., root-knot.
*Sterigmatocystis castanea* F. Patterson, fruit-rot. Tex., Ariz., Calif.

**PYRACANTHA.**

*P. coccinea*, scarlet firethorn.

*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. Idaho, Wash.

**PYRUS.**

*P. communis*, pear.

*Armillaria mellea* (Vahl) Quel., root-rot. Pacific coast.
*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. General.
*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. General.
*Botryosphaeria ribis* Gross. and Dug., black-rot. Va.
*Botrytis* sp., spur-blight. Oreg.
*B. cinerea* Auct., fruit-rot. Wash.
*Cephalothecium roseum* Cda., pink-mold rot. Conn., R. I., Ill.
*Cercospora minima* Tr. and Earle, leaf-spot. Miss., Tex.
*C. piri* Farl., leaf-spot. Mich.
*Corticium stevensii* Burt (*Hypochnus ochroleucus* F. Noack), leaf-blight. W. Va., N. C., S. C., Ga., Fla., Ala., Tex.

**PYRUS**—Continued.

*P. communis*, pear—Continued.

*Coryneum foliicolum* Fckl., leaf-spot. Ind.
*Fabraea maculata* (Lév.) Atk., leaf-blight. General.
*Gloeodes pomigena* (Schw.) A. S. Colby (*Phyllachora pomigena* (Schw.) Sacc.), sooty blotch. Mass. to N. C., westward to Ill., Tex.
*Gloeosporium perennans* Zeller and Childs, perennial canker. Wash., Oreg.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, bitter-rot. Conn., Mass., N. J., S. C., Ga., Tex., Ark.
*Gymnosporangium blasdaleanum* (Diet. and Holw.) Kern, incense-cedar rust. Oreg.
*G. globosum* Farl., rust. Conn., N. Y., Ohio, Colo.
*G. nelsoni* Arth., rust. Colo.
*Hendersonia foliorum* Fckl., leaf-spot. Tex.
*Leptothyrium carpophilum* Pass., flyspeck. Tex.
*Mycosphaerella sentina* (Fr.) Schroet., leaf-spot. General east of Great Plains; Oreg.
*Myxosporium corticolum* Edg. (*Dermatea corticola* (Edg.) Arn.), surface bark canker. N. Y., Mich., Oreg.
*Nectria galligena* Bres., European canker. Oreg.
*Neofabraea malicorticis* (A. B. Cordley) Jack., anthracnose. Wash., Oreg.
*Nummularia discreta* (Schw.) Tul., blister canker. Del.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex., N. Mex., Ariz.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Tex.
*P. flavescens macrophyllum* Engelm., mistletoe. Ariz., N. Mex.
*Phyllosticta pyrorum* Cke., leaf-spot. S. C., Ill.
*Physalospora malorum* (Pk.) Shear (*P. cydoniae* Am. Auct.), black-rot. Widespread east of Great Plains; Oreg.
*Phytophthora cactorum* (Leb. and Cohn) Schroet., rot. Conn., Ind., Mich.
*Podosphaera leucotricha* (Ell. and Ev.) Salm., powdery mildew. Colo., Wash.
*P. oxyacanthae* (DC.) D By., powdery mildew. Colo.
*Pythiacystis citrophthora* E. H. and R. E. Smith, citrus brown-rot. Calif.
*Sclerotinia cinerea* (Bon.) Schroet. (*Monilia oregonensis* Barss and Posey), blossom blight. Pacific coast.
*S. fructicola* (Wint.) Rehm (*S. americana* (Wormald) Norton and Ezekiel), brown-rot. Conn., Pa., Del., S. C., Ga., Fla., Miss., Ind., Ill., Wash.
*Septoria nigerina* Fckl., leaf-spot. N. Y.
*Venturia pyrina* Aderh., scab. General.
*Xylaria* sp., root-rot. Ind.
Bitter-pit, undet. N. Y., Wash., Oreg.
Brown-blotch, undet. N. J.
Chlorosis, nonpar. Tex., N. Mex., Wash.
Measles, undet. Fla.

**QUERCUS.**

*Quercus* spp., oaks.

*Actinopelte japonica* Sacc., leaf-spot. N. J.
*Armillaria mellea* (Vahl) Quel., root-rot. Widespread.
*Cercospora polytricha* Cke., leaf-spot. S. C., Ga.
*Cronartium cerebrum* (Pk.) Hedgc. and Long, rust. East of Great Plains; Calif.
*C. fusiforme* (Pk.) Hedgc. and Hunt, rust. Ohio.
*C. strobilinum* (Arth.) Hedgc. and Hahn, rust. Fla.
*Cylindrosporium microspilum* Sacc. and Wint., leaf-spot. Mo.
*Cytospora chrysosperma* (Pers.) Fr., canker. R. I., N. J., Pa.
*Diplodia longispora* Cke. and Ell., twig-blight. Conn., N. Y., N. J., Pa., Md., Va., W. Va.
*Fomes applanatus* Fr. (*Ganoderma applanatum* (Pers.) Pat.), white-streaked rot. Me., N. H., Pa., Ky., Minn., Calif.
*F. everhartii* (Ell. and Gall.) Schrenk, white-rot. Conn., N. J., Pa., N. C., Ohio, Ind., Minn., Mont.
*F. fomentarius* (L.) Fr., white sapwood rot.
*F. igniarius* (L.) Fr., white heart-rot. Conn., Mass., N. C., Minn., Okla.
*F. lobatus* Schw., spongy white-rot. Ark.

**QUERCUS**—Continued.

*Quercus* spp., oaks—Continued.

*Gnomonia veneta* (Sacc. and Speg.) Kleb., anthracnose. East of Great Plains.
*Hydnum erinaceus* Fr., wet heartwood rot. Ala., Ind., Ark.
*Leptothyrium dryinum* Sacc., leaf-spot. N. J., Va., Ga., Miss., Tex., Wis.
*Marssonia martini* (Sacc. and Ell.) Magn., leaf-spot. Miss. Valley; Pa., Va.
*M. quercus* Pk., leaf-spot. Ind., Mo., Tex.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. General east of Great Plains; Wash., Calif.
*Monochaetia desmazierii* Sacc., large leaf-spot. Pa., Southeastern States,
*Nectria cinnabarina* Fr., canker. Mass., Pa., Ala.
*N. galligena* Bres., European canker. Oreg.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Tex., Ind., Ariz.
*P. villosum* Nutt., mistletoe. Oreg.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. East of Miss. River.
*Phyllosticta agrifolia* Ell. and Ev., leaf-spot. Calif.
*P. livida* Ell. and Ev., leaf-spot. Fla., La., Wis., Calif.
*P. ludoviciana* Ell. and Mart., leaf-spot. Fla., La.
*P. phomiformis* Sacc., leaf-spot. Occurs scatteringly east of Great Plains.
*P. quercus* Sacc. and Speg., leaf-spot. N. Y., Ind., Wis.
*P. quercus prini* Ell. and Ev., leaf-spot. W. Va.
*P. vesicatoria* Thuem., leaf-spot. S. C.
*P. wislizeni* Ell. and Ev., leaf-spot. Calif.
*Polyporus berkeleyi* Fr., string-rot and ray-rot. N. Y., Pa., N. C., Ala., Ark., Ind., Mo.
*P. croceus* Fr., white-piped rot. N. Y., N. C., Ark., Ohio, Ind.
*P. dryadeus* Fr., white wood-rot. Pa., Va., Tex., Okla., Ark., Ohio, Ind., Minn.
*P. frondosus* Fr., straw-colored rot. Mass., Va., Ark., Ind.
*P. obtusus* Berk., soft heartwood rot. Tenn., Ga., Ala., Minn.
*P. rheades* Fr., white pocket rot. General.
*P. spraguei* Berk., heart-rot.
*P. sulphureus* (Bull.) Fr., brown-checked wood-rot. General.
*Rhytisma erythrosporum* Berk. and Curt., tar-spot. Tex.
*Septoria dryina* Cke., leaf-spot. Mass., S. C., Kans.
*S. neglecta* Earle, leaf-spot. Ala.
*Sphaeropsis quercina* Cke. and Ell., twig canker. Pa.
*Sphaerotheca lanestris* Hark., powdery mildew. Ala., Miss., Ind., Ill., Iowa, Calif.
*Stereum subpileatum* Berk. and Curt., honeycomb heart-rot. Southern States; Ohio, Ky., Mo.
*Strumella coryneoidea* Sacc. and Wint., canker. Conn., Mass., N. Y., Pa., Ill., Mo., Oreg.
*Taphrina coerulescens* (Mont. and Desm.) Tul., leaf blister. General east of Great Plains.

**RADICULA.**

*R. armoracia*, horseradish.

*Albugo candida* (Pers.) O. Kuntze, white-rust. Mass. to Mont., south to Kans.
*Alternaria brassicae* (Berk.) Sacc., leaf-spot. Nebr., Mo.
*A. herculea* (Ell. and Mart.) J. A. Elliott, gray leaf-spot. Conn., N. J., Ind.
*Bacillus* sp., bacterial root-rot. N. J.
*Cercospora armoraciae* Sacc., leaf-spot. Northern States.
*Corticium vagum* Berk. and Curt., stem-rot. N. J., Mich., Ill., Wash.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phyllosticta decidua* Ell. and Kell., leaf-spot. Wis.
*P. orbicula* Ell. and Ev., leaf-spot. N. Y.
*Ramularia armoraciae* Fckl., leaf-spot. General.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. N. J.

**RAPHANUS.**

*R. sativus*, radish.

*Actinomyces scabies* (Thax.) Gues., scab. Ohio, Ind.
*Albugo candida* (Pers.) O. Kuntze, white-rust. General.
*Alternaria brassicae macrospora* Sacc., leaf-spot. Conn.
*Ascochyta* sp., leaf-spot. Mass.
*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. N. Y.
*Bacterium campestre* (Pam.) EFS. (*Phytomonas campestre* (Pam.) Com. S. A. B.) black-rot. Ohio.
*Cercospora cruciferarum* Ell. and Ev., leaf-spot. Ala.
*Corticium vagum* Berk. and Curt., stem-rot. Mass., N. Y., Del., Ohio, Ill., Wash.
*Erysiphe polygoni* DC., powdery mildew. Tex., Mo.
*Peronospora parasitica* (Pers.) D By., downy mildew. Widespread.
*Plasmodiophora brassicae* Wor., clubroot. Conn., N. Y., Pa., Minn.
*Puccinia sarcobati* (Pk.) Bethel, rust. Southwestern States.
*Pythium aphanidermatum* (Edson) Fitz., black-root. Widely scattered States east of Miss. River.
*P. debaryanum* Hesse, damping-off. Va., Minn.
*Sclerotinia sclerotiorum* (Lib.) Mass., stem-rot. Minn.

**RESEDA.**

*R. odorata*, mignonette.

*Cercospora resedae* Fckl., leaf-spot. Widespread east of Great Plains.
*Corticium vagum* Berk. and Curt., stem-rot. Conn.
*Fusarium* sp., root-rot, N. Y.

**RHAMNUS.**

*R. cathartica*, buckthorn.

*Cercospora rhamni* Fckl., leaf-spot. N. J.
*Puccinia coronata* Cda., crown-rust. Vt., N. Y., Ill., Wis., Minn., Iowa, N. Dak., S. Dak.

*R. purshiana*, cascara buckthorn.

*Cylindrosporium rhamni* Ell. and Ev., leaf-spot. Idaho.
*Marssonia rhamni* Ell. and Ev., leaf-spot. Wash.
*Phyllosticta rhamnigena* Sacc., leaf-spot. Wash.
*Puccinia coronata* Cda., crown-rust. Pacific Northwest; Mont.
*Septoria blasdalei* Sacc. and Syd., leaf-spot. Calif.

**RHEUM.**

*R. rhaponticum*, rhubarb.

*Ascochyta rhei* Ell. and Ev., leaf-spot. General east of Rocky Mts.
*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. Ohio.
*Colletotrichum erumpens* Sacc., anthracnose. Pa., W. Va., Ill.
*Corticium vagum* Berk. and Curt., stem-rot. N. Y., Ill., Wash.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Peronospora rumicis* Cda., downy mildew. Calif.
*Phyllosticta straminella* Bres., leaf-spot. N. Y., Pa., Ind., Ill., Minn., Mo., N. Dak., Nebr.
*Phytophthora* sp., crown-rot. N. J., Pa., Del., Tenn., Ill., Mich., Mo.
*P. cactorum* (Leb. and Cohn) Schroet., crown-rot. Pa.
*P. parasitica rhei* G. H. Godfrey, foot-rot. Md., D. C., Va., Kans.
*Puccinia rubella* (Pers.) Arth., rust. Nebr.
*Sclerotium rolfsii* Sacc., stem-rot. Va.

**RHODODENDRON.**

*Rhododendron* sp., rhododendron.

*Armillaria mellea* (Vahl) Quel., root-rot. Wash.
*Coccomyces rhododendri* (Schw.) Sacc., leaf-spot. W. Va. (on *R. maximum*).
*Coryneum rhododendri* Schw., leaf-spot. Wash., Oreg. (on *R. californicum*).
*Cryptostictis* sp., leaf-spot. Pacific coast.
*Exobasidium vaccinii* (Fckl.) Wor., hypertrophy. Pa., N. C., Fla., Ind., Iowa, Wash., Oreg.

**RHODODENDRON**—Continued.

*Rhododendron* sp., rhododendron—Continued.

*Hendersonia concentrica* Ell. and Ev., leaf-spot. N. C.
*Laestadia rhodorae* Berl. and Vogl., leaf-spot. N. Y.
*Melampsoropsis piperiana* Arth., rust. Oreg., Wash. (on *R. californicum*).
*M. roanensis* Arth., rust. Tenn.
*Pestalozzia funerea* Desm., leaf-spot. Va.
*P. guepini* Desm., leaf-spot. Conn., N. Y., N. J., Pa., Del., Ind., Wash.
*Phyllosticta maxima* Ell. and Ev., leaf-spot. Conn., N. Y., N. J.
*P. saccardoi* Thuem., leaf-spot. N. Y.
*Septoria rhododendri* Cke., leaf-spot. Me.
*Sporocybe azaleae* (Pk.) Sacc., bud-blight. Pacific coast.
Witches'-broom and white-leaf, undet. Pacific coast (on *R. californicum*).

**RHODORA.**

*R. canadense,* rhodora.

*Exobasidium vaccinii* (Fckl.) Wor., hypertrophy. N. H.
*Pucciniastrum myrtilli* (Schum.) Arth., rust. N. H.

**RHODOTYPOS.**

*R. kerrioides,* jetbead.

*Ascochyta rhodotypi* H. W. Anderson, leaf-spot. Ill.

**RHUS.**

*R. copallina,* shining sumac.

*Cercospora copallina* Cke., leaf-spot. S. C., Fla., La.
*C. rhoina* Cke. and Ell., leaf-spot. Widespread east of Great Plains.
*Cylindrosporium toxicodendri* Ell. and Ev., leaf-spot. N. J.
*Exoascus purpurascens* (Ell. and Ev.) Sadeb., leaf-curl. Mass., N. J., Ga.
*Sphaerotheca humuli* (DC.) Burr., powdery mildew. Ill., Mo.

*R. cotinus,* smoketree.

*Cercospora rhoina* Cke. and Ell., leaf-spot. Ala.
*Septoria rhoina* Berk. and Curt., leaf-spot. New England, N. Y.

*R. glabra,* smooth sumac.

*Cercospora rhoina* Cke. and Ell., leaf-spot. Va. to Nebr. and southward.
*Cladosporium aromaticum* Ell. and Ev. Nebr.
*Septoria rhoina* Berk. and Curt., leaf-spot. Ill., Minn., Kans.
*Sphaerotheca humuli* (DC.) Burr., powdery mildew. Iowa, Miss.

*R. typhina,* staghorn sumac.

*Cercospora rhoina* Cke. and Ell., leaf-spot. Md.
*Exoascus purpurascens* (Ell. and Ev.) Sadeb., leaf-curl. Md.
*Physalospora malorum* (Pk.) Shear (*P. cydoniae* Am. Auct.), canker. N. Y.
*Septoria rhoina* Berk. and Curt., leaf-spot. Miss., Iowa.
*Sphaerotheca humuli* (DC.) Burr., powdery mildew. Pa.

**RIBES.**

*R. nigrum,* European black currant.

*Cronartium ribicola* Fisch., blister rust. New England, N. Y., Wash., Oreg.
*Microsphaera grossulariae* (Wallr.) Lév., powdery mildew. Mont.
*Mycosphaerella grossulariae* (Fr.) Lindau, leaf-spot. Conn., Iowa.
*Pseudopeziza ribis* Kleb., anthracnose. N. H.
*Puccinia grossulariae* (Schum.) Lagh., rust. Conn.

*R. vulgare,* red currant, white currant.

*Botryosphaeria ribis* Gross. and Dug., cane-blight. Mass., Conn., N. Y. to Va., west to Ill.
*Cercospora angulata* Wint., leaf-spot. N. Y. to Va., west to Iowa and Kans.
*Cronartium ribicola* Fisch., blister rust. North Atlantic States; Mich., Minn.
*Fomes ribis* (Schum.) Fr., root-rot. N. Y., N. J., Ind., Utah.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, bitter-rot. Conn.
*Mycosphaerella grossulariae* (Fr.) Lindau, leaf-spot. General in Northern States.
*Nectria ditissima* Tul., canker. N. Y.
*Phyllosticta grossulariae* Sacc., leaf-spot. N. J.
*Plasmopara ribicola* Schroet., downy mildew. Wis.

**RIBES**—Continued.

*R. vulgare*, red currant, white currant—Continued.

*Pleonectria berolinensis* Sacc., doubtfully parasitic on canes. Conn., Mass., Md., Ohio, Mich., Ind., N. Dak., Utah.
*Pseudopeziza ribis* Kleb., anthracnose. Widespread in Northern States.
*Puccinia grossulariae* (Schum.) Lagh., rust. Mass., Conn., N. Y., Mich., Ind., Minn., N. Dak., Iowa.
*Sphaerotheca mors-uvae* (Schw.) Berk. and Curt., powdery mildew. Widespread in Northern States.

**R. grossulariae* and other species, gooseberry.

*Armillaria mellea* (Vahl) Quel., root-rot. Oreg.
*Botrytis cinerea* Auct., die-back. Wash., Oreg.
*Cercospora* sp., leaf-spot. N. Y., W. Va., Ind., Mich., Mo., Nebr.
*Coleosporium ribicola* (Cke. and Ell.) Arth., rust. Wyo., Colo., N. Mex.
*Cronartium occidentale* Hedgc., Bethel, and Hunt, piñon blister rust. Colo., Ariz., Calif.
*C. ribicola* Fisch., blister rust. New England, Minn.
*Leptosphaeria coniothyrium* (Fckl.) Sacc., cane-blight. Ind., Mo.
*Mycosphaerella grossulariae* (Fr.) Lindau, leaf-spot. General in Northern States.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. N. Y.
*Phyllosticta grossulariae* Sacc., leaf-spot. N. J., Wis., Wash.
*Plasmopara ribicola* Schroet., downy mildew. W. Va., Minn., Oreg.
*Pseudopeziza ribis* Kleb., anthracnose. General in Northern States.
*Puccinia grossulariae* (Schum.) Lagh., rust. New England to N. Dak., south to Kans. and Md.
*Ramularia* sp., leaf-spot. Mich.
*Septoria grossulariae* (Lib.) West., leaf-spot. Me., Nebr., Kans.
*Sphaerotheca mors-uvae* (Schw.) Berk. and Curt., powdery mildew. General.

**RICINUS.**

*R. communis*, castor-bean.

*Bacterium solanacearum* EFS. (*Phytomonas solanaceara* (EFS.) Com. S. A. B.), bacterial wilt. Ga., Fla., Ala.
*Botrytis cinerea* Auct., gray-mold. Fla.
*Cercospora albido-maculans* Wint., leaf-spot. Mo.
*C. ricinella* Sacc. and Berl., leaf-spot. Gulf States, Calif.
*Corticium vagum* Berk. and Curt., damping-off. Fla., Kans.
*Heterosporium* sp. Calif.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Sclerotinia ricini* G. H. Godfrey, gray-mold. Fla., Miss., La., Tex.

**ROBINIA.**

*R. pseudacacia*, black locust.

*Cylindrosporium solitarium* Heald and Wolf, leaf-spot. Tex.
*Fomes rimosus* Berk., yellow wood-rot. Widespread east of Great Plains.
*F. robiniae* Murr., spongy heart-rot. Miss. Valley and Eastern States.
*Gloeosporium revolutum* Ell. and Ev., leaf-spot. N. J.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Phoradendron flavescens macrophyllum* Engelm., mistletoe. Ariz., N. Mex.
*Polyporus obtusus* Berk., soft heartwood rot.
*P. sulphureus* (Bull.) Fr., brown-checked wood-rot. Mass.
*Septoria curvata* (Rabh. and A. Braun) Sacc., leaf-spot. Ohio.
*Trametes robiniophila* Murr., white heart-rot. Mich.

**ROSA.**

*Rosa* spp., rose (cultivated and wild species).

*Armillaria mellea* (Vahl) Quel., root-rot. Oreg.
*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Widespread.
*Botryosphaeria ribis* Gross. and Dug., cane-blight. Md., Va.
*Botrytis cinerea* Auct., bud-blight. General.
*Cercospora rosicola* Pass., leaf-spot. General east of Great Plains; Wash.
*C. rosigena* Tharp, leaf-spot. Tex.

**ROSA**—Continued.

*Rosa* spp., rose (cultivated and wild species)—Continued.

*Cladosporium fuscum* Lk., leaf-spot. Miss., Minn.
*Coniothyrium rosarum* Cke. and Hark., graft canker. N. J., Iowa.
*Coryneum* sp., stem canker. Wash.
*C. microstictum* Berk. and Br., canker. Pa.
*Cylindrocladium scoparium* Morgan, crown canker. Mass., N. Y., Pa., Ga., Ind., Mich., Mo.
*Diaporthe umbrina* A. Jenkins, canker. Atlantic coast, W. Va., Ky., Miss.
*Dicoccum rosae* Bon., blight, leaf-spot. Fla., Ind.
*Diplocarpon rosae* Wolf, black-spot. General.
*Diplodia* sp., twig-blight. Fla.
*Discosia artocreas* (Tode) Fr., blossom blight. La.
*Dothiorella* sp., blossom blight. La.
*Gloeosporium rosae* Hals., twig-blight. Widespread east of Miss. River; Tex., Okla.
*Heterodera radicicola* (Greef) Muell., root-knot. N. J., W. Va., Ala., Ohio, Mich., Nebr.
*Leptosphaeria coniothyrium* (Fckl.) Sacc., cane-blight. General.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Peronospora sparsa* Berk., downy mildew. N. Y., Pa., Ohio, Tex., Calif.
*Phomopsis* sp., canker. Ky.
*Phragmidium americanum* (Pk.) Diet., rust. Widespread in Northeastern States; upper Miss. Valley.
*P. disciflorum* (Tode) G. F. James, rust. General.
*P. montivagum* Arth., rust. Western States.
*P. rosae-acicularis* Liro, rust. Mich., Wis., Minn., N. Dak., Mont., Idaho, Alaska.
*P. rosae-arkansanae* Diet., rust. Widespread.
*P. rosae-californicae* Diet., rust. Pacific coast.
*P. rosae-setigerae* Diet., rust. Upper Miss. Valley.
*P. speciosum* Cke., rust. General.
*P. subcorticinum* (Schrank) Wint., rust. Widespread.
*Phyllosticta rosae* Desm., leaf-spot. Ind., Fla.
*Physalospora malorum* (Pk.) Shear (*P. cydoniae* Am. Auct.), canker. Tex.
*Sclerotinia* sp., blight. Miss.
*Septoria rosae* Desm., leaf-spot. Miss.
*Sphaerotheca humuli* (DC.) Burr., powdery mildew. Conn., Pa., Tex., Ohio, Mich., Wis., Nebr., Calif.
*S. pannosa* (Wallr.) Lév., powdery mildew. General.
*Uromyces rosicola* Ell. and Ev., rust. Nebr.

**RUBUS.**

*Rubus* sp., blackberry.

*Armillaria mellea* (Vahl) Quel., root-rot. Wash.
*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. General.
*Botrytis cinerea* Auct., gray-mold. General on harvested fruit.
*Cercospora rubi* Sacc., blotch. Fla., La., Ill.
*Corticium vagum* Berk. and Curt., crown-rot. Colo.
*Cylindrosporium rubi* Ell. and Morgan, leaf-spot. N. C.
*Fusarium* sp., rosette. Md., Gulf States.
*Fusisporium rubi* Wint., double-blossom. N. Y., N. J., Del., Md., Va., Tenn., south to Fla., Ala., La., Ill.
*Gloeodes pomigena* (Schw.) A. S. Colby (*Phyllachora pomigena* (Schw.) Sacc.), scoty blotch. Ind.
*Gymnoconia interstitialis* (Schl.) Lagh., orange rust. General, especially in Eastern States.
*Kuehneola uredinis* (Lk.) Arth., yellow rust. General east of Miss. River.
*Leptosphaeria conioihyrium* (Fckl.) Sacc., cane-blight. East of Great Plains except Southern States; Pacific Northwest.
*Leptothyrium pomi* (Mont. and Fr.) Sacc., flyspeck. Ind.
*Mycosphaerella rubi* E. W. Roark, leaf-spot. General.
*M. rubina* (Pk.) Jacz., spur-blight. N. Y., Wis., Minn.
*Peronospora rubi* Rabh., downy mildew. Wis.
*Pezizella lythri* (Desm.) Shear and B. O. Dodge, fruit-rot.

**RUBUS**—Continued.

*Rubus* sp., blackberry—Continued.

*Phragmidium imitans* Arth., leaf-rust. Wash.
*Plectodiscella veneta* (Speg.) Burk., anthracnose. General.
*Sphaerotheca humuli* (DC.) Burr., powdery mildew. Ohio, Ill., Minn.
*Verticillium alboatrum* Reinke and Berth., bluestem, wilt. N. Y., Minn., Wash.
Dwarf, undet. Wash., Oreg.
Mosaic, undet. N. Y., Ind., Iowa, Oreg., Calif.

*Rubus* sp., dewberry (cultivated and wild).

*Cercospora rubi* Sacc., blotch. Fla., La., Tex., Ark.
*Fusisporium rubi* Wint., double-blossom. N. Y., N. J., Del., Md., Miss., La., Tex., Ohio.
*Gymnoconia interstitialis* (Schl.) Lagh. (not on Lucretia dewberry), orange rust. General, especially in Eastern States.
*Kuehneola uredinis* (Lk.) Arth., yellow rust. General east of Miss. River.
*Leptosphaeria coniothyrium* (Fckl.) Sacc., cane-blight. N. C., Miss., Idaho.
*Mycosphaerella rubi* E. W. Roark, leaf-spot. General.
*Peronospora potentillae* D By., downy mildew. Conn.
*P. rubi* Rabh., downy mildew. Fla., Wash.
*Pezizella lythri* (Desm.) Shear and B. O. Dodge, fruit-rot.
*Phyllosticta ruborum* Sacc., leaf-spot. N. Y., Miss.
*Plectodiscella veneta* (Speg.) Burk., anthracnose. General.
*Pucciniastrum americanum* (Farl.) Arth., leaf-rust. Wis. (on **R. arcticus triflorus*).
*Sphaerotheca humuli* (DC.) Burr., powdery mildew. Pa.

*Rubus* sp., Logan blackberry.

*Armillaria mellea* (Vahl) Quel., root-rot. Oreg.
*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Wash., Oreg.
*Corticium vagum* Berk. and Curt., crown-rot. Wash.
*Mycosphaerella rubi* E. W. Roark, leaf-spot. Mich., Wash., Oreg.
*M. rubina* (Pk.) Jacz., spur-blight. Wash.
*Plectodiscella veneta* (Speg.) Burk., anthracnose. N. Y., Wash., Oreg.
Dwarf, undet. Wash., Oreg.
Mosaic, undet. Wash., Oreg., Calif.

*Rubus* sp., raspberry.

*Armillaria mellea* (Vahl) Quel., root-rot. Wash., Oreg.
*Ascospora ruborum* (Oud.) S. M. Zeller, leaf-spot. Mass., Oreg.
*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. General.
*Botrytis cinerea* Auct., gray-mold rot. General on harvested fruit.
*Cercospora rubi* Sacc., blotch. Fla., Ala.
*Corticium vagum* Berk. and Curt., crown-rot. Idaho.
*Cuscuta* sp., dodder. Wis.
*Cylindrosporium rubi* Ell. and Morgan, leaf-spot. Tex., Ohio, Wis., Mo.
*Fusisporium rubi* Wint., double-blossom. N. Y., Pa., Md.
*Gymnoconia interstitialis* (Schl.) Lagh., orange rust. General, especially in Eastern States.
*Leptosphaeria coniothyrium* (Fckl.) Sacc., cane-blight. East of Great Plains except Southern States; Pacific Northwest.
*Leptothyrium pomi* (Mont. and Fr.) Sacc., flyspeck. Mass., Ind.
*Mycosphaerella rubi* E. W. Roark, leaf-spot. General.
*M. rubina* (Pk.) Jacz., spur-blight. Widespread in Northern States.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Peronospora rubi* Rabh., downy mildew. Wash.
*Phragmidium imitans* Arth., leaf-rust. Widespread in Northern States.
*P. occidentale* Arth., rust. Colo.
*Phyllosticta bicolor* Pk., leaf-spot. N. Y.
*Plectodiscella veneta* (Speg.) Burk., anthracnose. General.
*Pucciniastrum americanum* (Farl.) Arth., rust. Conn., Mass., Vt., Md., Va., Wis., Iowa, N. Dak.
*Rhizopus nigricans* Ehr., black-mold rot. General.

**RUBUS**—Continued.

*Rubus* sp., raspberry—Continued.

*Sphaerotheca humuli* (DC.) Wint., powdery mildew. Conn., N. Y., Ohio, Ill., Minn., Utah, Wash.
*Verticillium alboatrum* Reinke and Berth., bluestem, wilt. N. Y., Ohio, Mich., Minn., Wash., Oreg., Calif.
Leaf-curl, undet. N. Y., Md., Pa., Ohio, Ind., Mich., Wis., Minn., Wash., Oreg., Calif.
Mosaic, undet. Northeastern States; Minn., Pacific Northwest.
Streak, undet. Conn., N. Y., Pa., Md., Ohio, Ind., Ill., Wis., Oreg.

**RUDBECKIA.**

*R. laciniata*, *goldenglow, coneflower.

*Cercospora tabacina* Ell. and Ev., leaf-spot. Wis.
*Entyloma compositarum* Farl., smut. Ohio, Iowa, Mo.
*Erysiphe cichoracearum* DC., powdery mildew. N. H., Conn., Md., W. Va., Ohio, Ind., Mich., Minn.
*Phyllosticta rudbeckiae* Ell. and Ev., leaf-spot. Wis., Iowa.
*Plasmopara halstedii* Farl., downy mildew. N. Dak., Iowa.
*Ramularia rudbeckiae* Pk., leaf-spot. N. Y., Pa., Mich., Iowa, Mont., Colo.
*Septoria rudbeckiae* Ell. and Hals., leaf-spot. Nebr., Kans.
*Uromyces perigynius* Hals., rust. Pa., Wis., Iowa, Mo., N. Dak., S. Dak., Nebr., Mont.
*U. rudbeckiae* Arth. and Holw., rust. Ind., Ill., Miss. River to Rocky Mts.; N. Mex.

**SACCHARUM.**

*S. officinarum*, sugarcane.

*Cercospora vaginae* W. Krueger, red-spot. Fla.
*Colletotrichum falcatum* F. A. Went, red-rot. Gulf States; Ark.
*Gnomonia iliau* H. L. Lyon, stem-rot, Iliau disease. La.
*Helminthosporium sacchari* Butl., eye leaf-spot. Ga., Fla., Miss.
*Heterodera radicicola* (Greef) Muell., root-knot. Ga., Fla.
*Leptosphaeria sacchari* Van Breda de Haan, ring-spot. Fla., Ala.
*Marasmius sacchari* J. H. Wakker, root-rot. Gulf States.
*M. stenophyllus* Mont., root-rot. La., Tex.
*Melanconium sacchari* Mass., rind disease. Fla., La.
*Phyllosticta* sp., leaf-spot. Ga.
*Sclerotium rolfsii* Sacc., sheath-rot. Ga., Fla., Ala., La.
*Thielaviopsis paradoxa* (DeSeyn.) Hoehn., pineapple disease. Miss., La.
Mosaic, undet. Gulf States; Ga., Ark.

**SALIX.**

*Salix* spp., willow.

*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Conn., Tex.
*Cercospora salicina* Ell. and Ev., leaf-spot. Ill., La., Tex.
*Coryneum salicinum* (Cda.) Sacc., leaf-spot. N. Dak., Alaska.
*Cytospora chrysosperma* (Pers.) Fr., canker. Western States; Ind., Minn.
*Gloeosporium maculans* Pk., leaf-spot. Idaho.
*G. salicis* West., leaf-spot. N. Y., N. J., Wis., Oreg.
*Marssonia* sp., twig-blight. Wash.
*Marssonina populi* (Lib.) Magn., leaf-spot. Wis.
*Melampsora americana* Arth., rust. General.
*M. arctica* Rostr., rust. Colo.
*M. bigelowii* Thuem., leaf-rust. General.
*M. confluens* (Pers.) Jack., rust. General, especially in Western States.
*Nectria galligena* Bres., European canker. Oreg.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Ind., Calif.
*Phyllosticta apicalis* Davis, leaf-spot. Wis.
*Ramularia rosea* (Fckl.) Sacc., leaf-spot. Wis., Colo.
*Rhytisma salicinum* Fr., tar-spot. Widespread.
*Septoria albaniensis* Thuem., leaf-spot. Mass., N. Y., Wis., Minn.
*S. didyma* Fckl., leaf-spot. Wis.
*S. salicina* Pk., leaf-spot. N. Y., Miss., Kans., Colo.
*Trametes suaveolens* Fr., white wood-rot. N. Y., N. J., Wis., Minn., Mo.
*Uncinula salicis* (DC.) Wint., powdery mildew. General.

**SAMBUCUS.**

*Sambucus* spp., elderberry.

*Ascochyta wisconsinia* Davis, leaf-spot. Wis.
*Cercospora catenospora* Atk., leaf-spot. Ala., Miss., Tex., Kans.
*C. depazeoides* (Desm.) Sacc., leaf-spot. N. Y., Ala., Ga., Ind., Iowa, Kans.
*C. lateritia* Ell. and Hals., leaf-spot. Iowa, Kans.
*C. sambucina* Ell. and Kell., leaf-spot. Wash.
*Cercosporella prolificans* (Ell. and Holw.) Sacc., leaf-spot. Calif.
*Cytospora chrysosperma* (Pers.) Fr., canker. Kans., Wash.
*Gloeosporium tineum* Sacc., leaf-spot. Miss.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. N. Y., Pa., Ohio, Ill.
*M. grossulariae* (Wallr.) Lév., powdery mildew. Widespread east of Great Plains.
*Nectria cinnabarina* Fr., canker. Ind., N. Dak., Mont., Wash.
*Phyllosticta* sp., leaf-spot. Pa.
*Puccinia sambuci* (Schw.) Arth., rust. East of Great Plains.
*Ramularia glauca* Ell. and Ev., leaf-spot. Colo.
*R. sambucina* Pk., leaf-spot. N. Y., Mo., Wash.
*Septoria sambucina* Pk., leaf-spot. Widespread.
*Sphaeropsis sambucina* (Cke.) Sacc., canker. N. Y., Ind., N. Dak., Kans., Colo., Calif.

**SAPINDUS.**

*Sapindus* sp., soapberry.

*Cylindrosporium griseum* Heald and Wolf, leaf-blight. Tex.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, bitter-rot. Fla.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Tex.
*Uncinula circinata* Cke. and Pk., powdery mildew. Tex.

**SASSAFRAS.**

*S. variifolium*, sassafras.

*Actinothyrium gloeosporioides* L. R. Tehon, leaf-spot. Ill.
*Armillaria mellea* (Vahl) Quel., root-rot. Pa.
*Fomes ribis* (Schum.) Fr., root-rot. Mo.
*Gloeosporium affine* Ell. and Kell., leaf-spot. N. J., S. C., Ohio, Ind., Ill.
*G. officinale* Ell. and Ev., leaf-spot. Del.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Tex.
*Phyllosticta sassafras* Cke., leaf-spot. Widespread in Eastern States.

**SCHINUS.**

*S. molle*, California peppertree.

*Armillaria mellea* (Vahl) Quel., root-rot. Calif.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Trametes schini* J. G. Brown, timber-rot. Ariz.

**SECALE.**

*S. cereale*, rye.

*Bacterium translucens secalis* C. S. Reddy, James Godkin, and A. G. Johnson, bacterial blight. Ind., Ill., Wis.
*B. translucens undulosum* EFS., L. R. Jones, and C. S. Reddy, black-chaff. Wis.
*Claviceps purpurea* (Fr.) Tul., ergot. General.
*Colletotrichum graminicolum* (Ces.) Wils., anthracnose. General east of Great Plains.
*Erysiphe graminis* DC., powdery mildew. General.
*Fusarium culmorum leteius* Sherb., seedling blight. Oreg.
*Gibberella saubinetii* (Mont.) Sacc., scab. Occurs scatteringly east of Great Plains.
*Helminthosporium sativum* Pam., King, and Bak., leaf-spot, foot-rot. Pa., N. Y., Minn.; probably other States.
*Marasmius tritici* P. A. Young. Ill.
*Ophiobolus graminis* Sacc., take-all. N. Y.
*Puccinia dispersa* Eriks., leaf-rust. General, especially east of Rocky Mts.
*P. glumarum* (Schm.) Eriks. and Henn., stripe-rust. Wash., Oreg.
*P. graminis* Pers., stem-rust. General.

**SECALE**—Continued.

*S. cereale*, rye—Continued.

*Rhynchosporium secalis* (Oud.) Davis, scald. Upper Miss. Valley; Wash., Calif.
*Septoria secalis* Prill. and Del., leaf-blotch. East of Great Plains.
*Tilletia tritici* (Bjerk.) Wint., covered smut. N. Y., Wash.
*Tylenchus tritici* (Stein.) Bast., nematode. Va., S. C., Kans.
*Urocystis occulta* (Wallr.) Rabh., stem-smut. General east of Great Plains, occasional in West.
*Ustilago tritici* (Pers.) Rostr., loose-smut. Infrequent in Eastern States.
Mosaic, undet. Va., Ill.

**SEQUOIA.**

*S. gigantea*, big tree.

*Cercospora sequoiae* Ell. and Ev., leaf-spot. Pa.

*S. sempervirens*, redwood.

*Botrytis cinerea* Auct., gray-mold.
*Hexagonia carbonaria* Berk. and Curt., brown-rot. Calif.
*Polyporus amorphus* Fr., rot. Calif.
*Trametes isabellina* Fr., white-rot. Calif.
*T. odorata* (Wulf.) Fr., brown-rot. Calif.

**SHEPHERDIA.**

*S. argentea*, silver buffaloberry.

*Phyllactinia corylea* (Pers.) Karst., powdery mildew. Oreg.
*Puccinia coronata* Cda., crown-rust. N. Dak., Nebr., Mont., Wyo., Colo.
*Sphaerotheca humuli* (DC.) Burr., powdery mildew. Colo., Mont.

*S. canadensis*, russet buffaloberry.

*Puccinia caricis-shepherdiae* Davis, rust. N. Y., Mich., Wis., S. Dak.
*P. coronata* Cda., crown-rust. Occurs scatteringly in Rocky Mt. States and Pacific Coast States.

**SOJA.**

*S. max*, soybean.

*Bacillus lathyri* Manns and Taub., streak. Del., Nebr.
*Bacterium glycineum* Coerper, bacterial blight. Pa., Ind., Ill., Wis., Miss., La.
*B. phaseoli sojense* Hedges, bacterial pustule. Va., N. C., S. C., La., Tex., Ark., Kans.
*B. sojae* Wolf, bacterial blight. Conn., N. C., S. C., La., Mich., Wis., Nebr.
*B. solanacearum* EFS. (*Phytomonas solanaceara* (EFS.) Com. S. A. B.), bacterial wilt. N. C.
*Botrytis cinerea* Auct., gray-mold. Ohio.
*Cercospora cruenta* Sacc., leaf-spot. Ala.
*Corticium vagum* Berk. and Curt., stem-rot. Tenn., Ind.
*Diaporthe sojae* S. G. Lehman, pod-blight. N. C., Ind.
*Erysiphe polygoni* DC., powdery mildew. N. C.
*Fusarium vasinfectum tracheiphilum* EFS., wilt. Southern States; Ind.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, anthracnose. N. C.
*Heterodera radicicola* (Greef) Muell., root-knot. S. C., Ark., Calif.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Peronospora sojae* Wolf, downy mildew. Del., Ky., N. C.
*P. trifoliorum* D By., downy mildew. N. Y.
*Sclerotinia sclerotiorum* (Lib.) Mass., stem-rot. Va.
*Sclerotium rolfsii* Sacc., stem-rot. N. C., S. C., Ala., Miss., La.
*Septoria glycines* Takewo Hemmi, leaf-spot. Del.
Mosaic, undet. Widespread where crop is grown.

**SOLANUM.**

*S. melongena*, eggplant.

*Alternaria solani* (Ell. and Mart.) L. R. Jones and A. J. Grout, leaf-spot. Conn., N. Y., Pa., Del., Md., W. Va., Fla.
*Ascochyta lycopersici* Brun. (*Didymella lycopersici* Kleb., *Diplodina destructiva* (Plow.) Petr.), leaf-spot. N. Y., Del., Ind.

**SOLANUM**—Continued.

*S. melongena*, eggplant—Continued.

*Bacterium solanacearum* EFS. (*Phytomonas solanaceara* (EFS.) Com. S. A. B.), bacterial wilt. Southern States.

*Botrytis cinerea* Auct., gray-mold rot. Mass., Conn., Wash., Calif.

*Colletotrichum atramentarium* (Berk. and Br.) Taub., fruit-rot, anthracnose. General east of Great Plains; Utah.

*Corticium vagum* Berk. and Curt., stem-rot. Pa., N. J., Fla., Ala., La., Tex., Wash.

*Diplodia* sp., fruit-spot. Fla.

*Fusarium* spp., wilt. East of Miss. River; La., N. Mex.

*Gloeosporium melongenae* Ell. and Hals., anthracnose. General east of Great Plains.

*Heterodera radicicola* (Greef) Muell., root-knot. Southern States; Nev.

*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.

*Phoma* sp., storage rot. Me.

*Phomopsis vexans* (Sacc. and Syd.) Harter, leaf-spot, fruit-rot. East of Great Plains; Calif.

*Phyllosticta solani* Ell. and Mart., leaf-spot. La.

*Phytophthora* sp., rot. Ind.

*P. infestans* (Mont.) D By., late-blight. N. Y.

*Pythium debaryanum* Hesse, damping-off. Conn.

*Sclerotinia sclerotiorum* (Lib.) Mass., stem-rot. Va., La.

*Sclerotium rolfsii* Sacc., stem-rot. Ga., La.

*Verticillium alboatrum* Reinke and Berth., wilt. Mass., N. Y., N. J., Pa., Va., S. C., Ga.

Mosaic, undet. Conn., Fla., Iowa.

*S. tuberosum*, potato.

*Actinomyces scabies* (Thax.) Gues., scab. General.

*Alternaria solani* (Ell. and Mart.) L. R. Jones and A. J. Grout, early-blight. General, especially east of Rocky Mts.

*Armillaria mellea* (Vahl) Quel., root-rot. Mich., Wis., Wyo., Pacific coast.

*Bacillus* spp., soft-rot. General, especially on harvested crop in transit and market.

*B. phytophthorus* O. Appel (*Erwinia atroseptica* (Van Hall) Com. S. A. B.), black-leg. General; reported from practically every State.

*Bacterium solanacearum* EFS. (*Phytomonas solanaceara* (EFS.) Com. S. A. B.), bacterial wilt. Southern States.

*Cercospora concors* (Casp.) Sacc., leaf-blotch. Vt., N. Y., W. Va., Ga., Ind., Mich.

*C. solanicola* Atk., leaf-spot. Ala.

*Colletotrichum atramentarium* (Berk. and Br.) Taub., anthracnose. N. Y., W. Va., Ohio, Fla., Utah, Oreg.

*Corticium vagum* Berk. and Curt., scurf, stem-rot. General; in every State.

*Fusarium* spp., dry rots. Common everywhere on harvested tubers.

*F. eumartii* C. W. Carpenter, stem-end rot. N. Y., Pa., Ohio, Nebr.

*F. oxysporum* Schl., wilt. Widespread; less destructive in more northern late-potato sections.

*F. radicicola* Woll., jelly end-rot. N. Y., Va., D. C., Miss.; not uncommon in Western States.

*F. sulphureum* Schl., tuber rot. N. Dak.

*F. trichothecioides* Woll., powdery dry-rot. Ohio, Wis., Minn., Iowa, S. Dak., Nebr., Ariz., Utah, Idaho, Wash., Oreg.

*Heterodera radicicola* (Greef) Muell., root-knot. Southern States, Kans., Nev., Pacific coast.

*Oidium* sp., powdery mildew. Pa.

*Phoma* sp. (doubtfully parasitic), stem-blight. New England, N. Y., Pa., Mich.

*P. tuberosa* I. E. Melhus, J. Rosenbaum, and E. S. Schultz, storage rot. Me., Pa.

*Phytophthora infestans* (Mont.) D By., late-blight. East of Great Plains; Pacific coast. Most frequent in Northeast.

*Pythium debaryanum* Hesse, leak. Conn., N. Y., N. J., N. C., Miss., La., Minn., Nebr., Mont., Wyo., Colo., Idaho, Wash., Calif.

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**SOLANUM**—Continued.

*S. tuberosum*, potato—Continued.

*Rhizoctonia crocorum* (Pers.) DC., violet root-rot. N. Y., Nebr., Wash., Oreg.
*Rhizopus nigricans* Ehr., leak. Ohio, Idaho, Wash., Calif.
*Sclerotinia sclerotiorum* (Lib.) Mass., stem-rot. N. Y., Fla.
*Sclerotium rolfsii* Sacc., stem-rot. South Atlantic and Gulf Coast States.
*Spondylocladium atrovirens* C. O. Harz, silver scurf. General.
*Spongospora subterranea* (Wallr.) T. Johnson, powdery scab. Me., Conn., N. Y., Pa., S. C., Fla., Minn., Wyo., Wash., Oreg.
*Synchytrium endobioticum* (Schilb.) Perc., wart. Pa., Md., W. Va.
*Verticillium alboatrum* Reinke and Berth., wilt. New England, N. Y., Pa., Ohio, Wis., N. Dak., Colo., Utah, Idaho, Pacific coast.
Black-heart, nonpar. Frequent, especially as a result of overheating in transit.
Curly-dwarf, undet. Frequent.
Hollow-heart, nonpar. Frequently reported, especially in overgrown tubers.
Hopperburn, undet. East of Great Plains.
Internal brown-spot, nonpar. Frequent.
Leaf-roll, undet. General.
Leak, various causes. General (see also *Pythium debaryanum* and *Rhizopus nigricans*).
Malnutrition, nonpar. New England, Middle Atlantic States, Minn., Wash.
Mosaic, undet. General.
Net-necrosis, undet. Frequent.
Russet dwarf, undet. Idaho.
Spindle-tuber, undet. Vt., N. Y., N. J., S. Dak., Nebr., Ky.
Streak, undet. Atlantic Coast States, Mich., Minn., Idaho, Wash., Calif.
Tipburn, nonpar. General.
Witches'-broom, undet. Me., Mich., Minn.; Pacific Northwest.
Yellow dwarf, undet. Vt., N. Y., N. J., Pa., Fla., S. Dak.

**SOPHORA.**

*S. japonica*, *pagoda tree.

*Microsphaera alni* (Wallr.) Wint., powdery mildew. Conn.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.

**SORBUS.**

*Sorbus* sp., mountain-ash.

*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. Mich., Minn.
*Cytospora chrysosperma* (Pers.) Fr., canker. Mont.
*Gymnosporangium blasdaleanum* (Diet. and Holw.) Kern, rust. Oreg.
*G. cornutum* (Pers.) Arth., rust. New England, N. Y., Mich., Wis., Mont., Wyo., Colo.
*G. globosum* Farl., rust. New England, N. Y.
*G. juniperinum* (L.) C. Martius, rust. Mont., Wyo., Colo., Wash.
*G. nootkatensis* (Trel.) Arth., rust. Wash., Alaska.
*Nummularia discreta* (Schw.) Tul., blister canker. Mass., Pa.
*Phyllosticta sorbi* West., leaf-spot. Mo.
*Physalospora malorum* (Pk.) Shear (*P. cydoniae* Am. Auct.), black-rot.
*Polystictus hirsutus* Fr., white sap-rot.
*Valsa leucostoma* (Pers.) Fr., die-back. Mont.
*Venturia inaequalis* (Cke.) Aderh., scab. Minn.

**SPINACIA.**

*S. oleracea*, spinach.

*Cercospora beticola* Sacc., leaf-spot. Mass., Tex.
*C. dubia* (H. Riess) Wint., leaf-spot. Mo.
*C. flagelliformis* Ell. and Hals., leaf-spot. N. J., Del., Ga., Ind., Minn.
*Cladosporium macrocarpum* Preuss, scab, black-mold. Pa., Del., Tex.
*Colletotrichum spinaciae* Ell. and Hals., anthracnose. Conn., N. Y., N. J., Va., La., Tex.
*Corticium vagum* Berk. and Curt., stem-rot. Pa., Ill., Wash.
*Entyloma ellisii* Hals., smut. N. J.

**SPINACIA**—Continued.

*S. oleracea*, spinach—Continued.

*Fusarium* sp., root-rot. Tex., Oreg.
*F. spinaciae* Sherb., wilt. Idaho.
*Heterodera radicicola* (Greef) Muell., root-knot. Ind.
*Heterosporium variabile* Cke., leaf-spot. Conn., Mass., Va., Mo., Tex., Calif.
*Macrosporium cheiranthi* (Lib.) Fr., leaf-spot. Ohio.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Peronospora effusa* (Grev.) Ces., downy mildew. General.
*Phyllosticta chenopodii* Sacc., leaf-spot. N. J., Del., Va.
*Phytophthora* sp., crown-rot. N. J., Ind.
*Puccinia sarcobati* (Pk.) Bethel, rust. Ariz., Wash., Oreg.
*Pythium debaryanum* Hesse, damping-off. Conn.
Malnutrition, nonpar. Va.
Mosaic, undet. Widespread.

**SPIRAEA.**

*Spiraea* sp., spirea.

*Bacillus amylovorus* (Burr.) Trev. (*Erwinia amylovora* (Burr.) Com. S. A. B.), blight. Md.
*Cercospora rubigo* Cke. and Hark., leaf-spot. Kans.
*Cylindrosporium filipendulae* Thuem., leaf-spot. Wis., Wash., Oreg.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Podosphaera oxyacanthae* DC., powdery mildew. New England, Ohio, Mo., Wyo., Wash.
*Rhopalidium cercosporelloides* Dearn., leaf-spot. Idaho.
*Septoria salicifolia* (Trel.) Ell. and Ev., leaf-spot. Wis., Kans.
*Sphaerotheca humuli* (DC.) Burr., powdery mildew. Conn., N. Y.

**STAPHYLEA.**

*S. trifolia*, American bladdernut.

*Ramularia isarioides* Sacc., leaf-spot. Pa., Wis., Mo.
*Septoria cirrhosa* Wint., leaf-spot. Mo.

**STIZOLOBIUM.**

*S. deeringianum*, velvetbean.

*Aplanobacter stizolobii* Wolf, bacterial leaf-spot. N. C.
*Bacterium vignae* M. W. Gardner and J. B. Kendrick, bacterial spot. Ind.
*Cercospora mucunae* Syd., leaf-spot. Ala.
*C. stizolobii* Syd., leaf-spot. N. C., S. C., Fla.
*Corticium vagum* Berk. and Curt., stem-rot. Ga., La.
*Heterodera radicicola* (Greef) Muell., root-knot. Calif.
*Phyllosticta mucunae* Ell. and Ev., leaf-spot. Ala.
*Sclerotium rolfsii* Sacc., stem-rot. Ga., Ala.

**SYMPHORICARPOS.**

*Symphoricarpos* sp., snowberry, coralberry.

*Cercospora symphoricarpi* Ell. and Ev., leaf-spot. Nebr., Kans., Mont.
*Fomes ribis* (Schum.) Fr., root-rot. N. Dak., Kans.
*Microsphaera diffusa* Cke. and Pk., powdery mildew. General.
*Nectria coryli* Fckl., canker. N. Dak.
*Puccinia abundans* (Pk.) Jack., rust. Great Plains and westward.
*P. symphoricarpi* Hark., rust. Western States.
*Septoria oedospora* F. E. Clements, leaf-spot. Colo.
*S. symphoricarpi* Ell. and Ev., leaf-spot. N. Dak., Nebr., Mont., Idaho, Wash.

**SYRINGA.**

*Syringa* sp., lilac.

*Hymenochaete agglutinans* Ell., stem girdling. Conn.

*S. persica*, Persian lilac.

*Cercospora lilacis* (Desm.) Sacc., leaf-spot. Miss.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Iowa.

**SYRINGA**—Continued.

*S. vulgaris*, lilac.

*Botrytis cinerea* Auct., blossom blight. Wash.
*Cercospora lilacis* (Desm.) Sacc., leaf-spot. S. C., Miss., Minn.
*C. macromaculans* Heald and Wolf, leaf-spot. Tex., Okla.
*Corticium stevensii* Burt (*Hypochnus ochroleucus* F. Noack), leaf-blight. N. C., Miss.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. General.
*Phyllosticta halstedii* Ell. and Ev., leaf-spot. N. J.
*P. syringae* West., leaf-spot. Wis.
*Polystictus versicolor* (L.) Fr., yellowish wood-rot. Mo.
*Sphaeropsis* sp. Pa.
*Uncinula clintonii* Pk., powdery mildew. Ind.

**TAGETES.**

*Tagetes* sp., marigold.

*Botrytis cinerea* Auct., rot. Conn.

**TAXODIUM.**

*T. distichum*, baldcypress.

*Fomes geotropus* Cke., pecky heartwood rot. Southern States.
*Pestalozzia funerea* Desm., leaf-blight. Tex.

**THUJA.**

*T. occidentalis*, arborvitae.

*Keithia thujina* E. J. Durand, leaf-blight. Va., Wis.
*Lophodermium pinastri* (Schrad.) Chev., leaf-cast. Me.
*Pestalozzia funerea* Desm., leaf-blight. Me., Mass., Va., N. C.
*Phomopsis juniperovora* G. Hahn, nursery blight. Pa.

*T. orientalis*, oriental arborvitae.

*Diplodia* sp., die-back. Fla.
*Phomopsis juniperovora* G. Hahn, nursery blight. Pa., Ind., Ill., Iowa, Nebr., Kans.

*T. plicata*, giant arborvitae.

*Armillaria mellea* (Vahl) Quel., root-rot.
*Coryneum thujinum* Dearn., leaf-blight. Oreg.
*Herpotrichia nigra* Hartig, matting. Idaho.
*Keithia thujina* E. J. Durand, leaf-blight. Pacific Northwest.
*Mycosphaerella thujae* Petr., leaf-spot. Idaho.
*Polyporus schweinitzii* Fr., red-brown butt-rot. Idaho.
*Poria weirii* Murr., brown laminated rot. Throughout range of host.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot.

**TILIA.**

*Tilia* sp., linden, basswood.

*Actinonema tiliae* Allesch., leaf-spot. Ind.
*Cercospora microsora* Sacc., leaf-blight. Widespread east of Great Plains.
*C. tiliae* Pk., leaf-spot. N. Y.
*Gloeosporium tiliae* Oud., anthracnose. N. Y., Mass., Va., Minn.
*Hydnum septentrionale* Fr., white sapwood rot. Ala.
*Melanconium tiliae* Pk., twig-blight. Ohio.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe.
*Phyllosticta tiliae* Sacc. and Speg., leaf-spot. N. Y., Pa., W. Va.
*Uncinula clintonii* Pk., powdery mildew. Widespread in Eastern States.

**TRAGOPOGON.**

*T. porrifolius*, vegetable-oyster, salsify.

*Albugo tragopogonis* (DC.) S. F. Gray, white-rust. General in northern half of United States.
*Bacillus carotovorus* L. R. Jones (*Erwinia carotovora* (Jones) Com. S. A. B.), soft-rot. Conn.
*Corticium vagum* Berk. and Curt., stem-rot. Wash.
*Erysiphe cichoracearum* DC., powdery mildew. Nebr., Wash.
*Heterodera radicicola* (Greef) Muell., root-knot. Va., Ala., Wash.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.

**TRAGOPOGON**—Continued.

*T. porrifolius,* vegetable-oyster, salsify—Continued.

*Sclerotinia intermedia* G. B. Ramsey, root-rot. Ill.
*Verticillium* sp., wilt. N. Y.

**TRIFOLIUM.**

*T. hybridum,* alsike clover.

*Bacillus lathyri* Manns and Taub., streak. Del.
*Bacterium trifoliorum* L. R. Jones et al., bacterial leaf-spot. General in Eastern States.
*Cercospora zebrina* Pass., leaf-spot. Va., Ind.
*Colletotrichum trifolii* S. M. Bain, anthracnose. East of Great Plains; Colo., Wash.
*Corticium vagum* Berk. and Curt., root-rot. Ohio, Minn.
*Erysiphe polygoni* DC., powdery mildew. W. Va., Minn., Idaho.
*Phyllachora trifolii* (Pers.) Fckl., sooty spot. Minn.
*Sclerotinia trifoliorum* Eriks., root-rot. Mich.
*Sphaerulina trifolii* Rostr., leaf-spot. N. Y., Ill., Mo.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot.
*Uromyces trifolii* (Hedw. f.) Lév., rust. General.
Mosaic, undet. Pa.

*T. incarnatum,* crimson clover.

*Bacterium trifoliorum* L. R. Jones et al., leaf-spot. Md., Va., N. C., Ind., Wis., Iowa.
*Botrytis* sp., gray-mold. Del.
*Cercospora medicaginis* Ell. and Ev., leaf-spot. Del.
*Colletotrichum trifolii* S. M. Bain., anthracnose. Ky.
*Corticium vagum* Berk. and Curt., root-rot. N. C.
*Gloeosporium caulivorum* L. Kirchner, anthracnose. N. C.
*Heterodera radicicola* (Greef) Muell., root-knot.
*Macrosporium* sp., leaf-spot. Va.
*Phyllachora trifolii* (Pers.) Fckl., sooty spot. Pa., Md., Ga., Ala., N. Dak.
*Sclerotinia trifoliorum* Eriks., root-rot. N. J., Md., N. C., S. C., Ky., Tenn., Oreg.
*Sclerotium rolfsii* Sacc., stem-rot. La.
*Sphaerulina trifolii* Rostr., leaf-spot. N. Y., Ill., Mo.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot.
*Uromyces fallens* (Desm.) Kern, rust. Del., Ind., S. Dak.
*U. trifolii* (Hedw. f.) Lév., rust. Pa., Ala., Wis., Minn.
Mosaic, undet. Pa.

**T. medium,* zigzag clover.

*Bacterium trifoliorum* L. R. Jones et al., leaf-spot. Md., Va., N. C., Ind., Wis., Iowa.
*Uromyces trifolii* (Hedw. f.) Lév., rust.

*T. pratense,* red clover (includes **T. medium perenne,* mammoth clover).

*Bacillus lathyri* Manns and Taub., streak. Del.
*Bacterium trifoliorum* L. R. Jones et al., leaf-spot. D. C., Md., Va., N. C., Ind., Wis., Iowa.
*Botrytis* sp., gray-mold. Pa.
*Cercospora medicaginis* Ell. and Ev., leaf-spot. N. J.
*C. zebrina* Pass., leaf-spot. N. Y., Mich., Ind., Iowa.
*Colletotrichum destructivum* P. J. O'Gara, anthracnose. Utah.
*C. trifolii* S. M. Bain, anthracnose. N. Y., Pa., N. J., Del., Va., Ohio, Ind., Mich., Wis., Ky., Tenn.
*Cuscuta* spp., dodder. N. Y., Del., Md., La., Ohio, Nebr.
*Erysiphe polygoni* DC., powdery mildew. Widespread, especially abundant east of Great Plains.
*Gloeosporium caulivorum* L. Kirchner, anthracnose. N. Y. to Va., westward to Mo.
*Heterodera radicicola* (Greef) Muell., root-knot. W. Va., La., Utah.
*Macrosporium sarcinaeforme* Cav., leaf-spot. East of Great Plains.
*Phyllachora trifolii* (Pers.) Fckl., sooty spot. East of Great Plains; Wash., Oreg.
*Pseudopeziza trifolii* (Biv.) Fckl., leaf-spot. Widespread in Northern States.

**TRIFOLIUM**—Continued.

*T. pratense,* red clover, etc.—Continued.

*Sclerotinia trifoliorum* Eriks., root-rot. Pa., N. C., Ky., Tenn., La., Ind., Mich., Oreg.
*Septoria trifolii* Ell., leaf-spot. N. J.
*Sphaerulina trifolii* Rostr., leaf-spot. N. Y., Ill., Mo.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot.
*Tylenchus dipsaci* (Kuehn) Bast., stem nematode. Utah, Pacific Northwest.
*Uromyces fallens* (Desm.) Kern, rust. General.
Mosaic, undet. Conn., Pa., Ark., Ind., Minn.

*T. repens,* white clover.

*Bacterium trifoliorum* L. R. Jones et al., leaf-spot. D. C., Md., Va., N. C., Ind., Wis., Iowa.
*Brachysporium trifolii* C. H. Kauffman, blight. D. C.
*Cercospora helvola* Sacc., leaf-spot. N. J.
*Corticium vagum* Berk. and Curt., stem-rot. N. Y.
*Erysiphe polygoni* DC., powdery mildew. W. Va., Idaho.
*Heterodera radicicola* (Greef) Muell., root-knot.
*Peronospora trifoliorum* D By., downy mildew. Nebr.
*Phyllachora trifolii* (Pers.) Fckl., sooty spot. East of Great Plains; Utah.
*Pseudopeziza trifolii* (Biv.) Fckl., leaf-spot. Miss.
*Sclerotinia trifoliorum* Eriks., root-rot. Miss., Oreg.
*Sphaerulina trifolii* Rostr., leaf-spot. N. Y., N. J., Ill., Mo.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. Conn.
*Uromyces nerviphila* (Grognot) Lagh., rust. N. Y., Wis., Colo.
*U. trifolii* (Hedw. f.) Lév., rust. General.

**TRITICUM.**

*T. aestivum,* wheat.

*Bacterium atrofaciens* McC. (*Phytomonas atrofaciens* (McC.) Com. S. A. B.), basal glume-rot. General in States between Miss. River and Rocky Mts.; Mich., N. Y., Pa.
*B. translucens undulosum* EFS., L. R. Jones, and C. S. Reddy, black-chaff. Miss. Valley; Great Plains area; Mont., Idaho.
*Claviceps purpurea* (Fr.) Tul., ergot. Occurs scatteringly, especially on durum wheat.
*Colletotrichum graminicolum* (Ces.) Wils., anthracnose. East of Great Plains.
*Erysiphe graminis* DC., powdery mildew. General.
*Fusarium culmorum leteius* Sherb., seedling blight. Oreg.
*Gibberella saubinetii* (Mont.) Sacc., scab. General east of Great Plains; most prevalent in Corn Belt.
*Helminthosporium sativum* Pam., King, and Bak., foot-rot. Widely distributed, especially in upper Miss. Valley States.
*Leptosphaeria tritici* (S. Garovaglio) Pass., leaf-spot. N. Y., Iowa, Nebr.
*Marasmius tritici* P. A. Young, root-rot. Ill.
*Mycosphaerella tulasnei* Jacz. (*Cladosporium herbarum* (Pers.) Lk.; *Hormodendrum cladosporioides* Sacc.), sooty mold. N. Y., N. J., W. Va., Ohio, Mich., Pacific coast.
*Ophiobolus graminis* Sacc., take-all. N. Y., Md., Va., N. C., Tenn., Ark., Ind., Kans., Wash., Oreg., Calif.
*Podosporiella verticillata* P. J. O'Gara, seedling blight. Utah.
*Puccinia glumarum* (Schm.) Eriks. and Henn., stripe-rust. West of Great Plains.
*P. graminis* Pers., stem-rust. General; most prevalent in the spring-wheat area.
*P. triticina* Eriks., leaf-rust. General, especially prevalent in South.
*Sclerospora macrospora* Sacc., downy mildew. Del., Ky., Tenn., Calif.
*Sclerotium rhizodes* Auer., Sclerotium blight. Idaho, Mont., Wash.
*Septoria nodorum* Berk., glume-blotch. General; most prevalent in South and Ohio Valley States.
*S. tritici* Desm., speckled leaf-blotch. General.
*Tilletia laevis* Kuehn, bunt. General.
*T. tritici* (Bjerk.) Wint., bunt. Mostly west of Miss. River. Serious in Pacific Northwest.

**TRITICUM**—Continued.

*T. aestivum*, wheat—Continued.

*Tylenchus tritici* (Stein.) Bast., nematode. N. Y., Va., W. Va., N. C., S. C., Ga., Calif.
*Urocystis tritici* Koern., flag-smut. Ill., Mo., Kans.
*Ustilago tritici* (Pers.) Rostr., loose-smut. Widespread.
*Wojnowicia graminis* (McAlp.) Sacc. and D. Sacc., foot-rot. N. Y., Kans., Ark., Oreg.
Black-point, associated with *Helminthosporium* spp. N. Dak.
Mosaic, undet. Nebr., Ind., Ill.
Rosette, undet. Ill., Ind.
Sterility, undet. Minn., N. Dak., Kans., Mo., Tex.
Stripe, undet. N. Y., Pa., Ill.

**T. dicoccum*, emmer.

*Ophiobolus graminis* Sacc., take-all. N. Y.
*Puccinia glumarum* (Schm.) Eriks. and Henn., stripe-rust. Idaho.
*P. graminis* Pers., stem-rust. Tex., Okla., Mo., Wash.
*P. triticina* Eriks., leaf-rust. Ga., Tex.
*Septoria nodorum* Berk., glume-blotch. Md.
*Tilletia tritici* (Bjerk.) Wint., bunt. N. Dak.
*Tylenchus tritici* (Stein.) Bast., nematode. Va.

**T. spelta*, spelt.

*Colletotrichum graminicolum* (Ces.) Wils., anthracnose. Ill.
*Gibberella saubinetii* (Mont.) Sacc., scab. Md., Ill., Minn.
*Ophiobolus graminis* Sacc., take-all. N. Y.
*Puccinia glumarum* (Schm.) Eriks. and Henn., stripe-rust. Idaho.
*P. graminis* Pers., stem-rust. Mo., Minn., N. Dak., Kans., Wyo., Wash.
*P. triticina* Eriks., leaf-rust. Wis., Minn., Tex.
*Tilletia tritici* (Bjerk.) Wint., bunt. N. Dak.
*Tylenchus tritici* (Stein.) Bast., nematode. Va.
*Ustilago tritici* (Pers.) Rostr., loose-smut. N. Y.

**TROPAEOLUM.**

*T. majus*, nasturtium.

*Alternaria* sp. (associated with Pleospora), black-mold. N. J.
*Bacterium aptatum* N. Brown and Jamieson (*Phytomonas aptatum* (Brown and Jamieson) Com. S. A. B.), leaf-spot. N. J., Miss.
*B. solanacearum* EFS. (*Phytomonas solanaceara* (EFS.) Com. S. A. B.), bacterial wilt. Md., Va., Fla.
*Cercospora tropaeoli* Atk., leaf-spot. Ala.
*Heterodera radicicola* (Greef) Muell., root-knot. N. J.
*Pleospora tropaeoli* Hals., leaf-spot. Ohio.
*Puccinia sarcobati* (Pk.) Bethel, rust. Utah (a single report).

**TSUGA.**

*T. canadensis*, Canada hemlock.

*Armillaria mellea* (Vahl) Quel., root-rot. Pa.
*Fomes pinicola* Fr., brown crumbly rot. General in Northeastern States.
*F. roseus* (Alb. and Schw.) Fr., brown pocket rot. N. Y.
*Hymenochaete agglutinans* Ell. Pa.
*Hypoderma brachysporum* (Rostr.) Tub., leaf-cast. Vt.
*Keithia tsugae* (Farl.) E. J. Durand, leaf-blight. N. H., Wis.
*Melampsora abietis-canadensis* (Farl.) C. A. Ludwig, rust. New England; N. Y., and westward to northern Wis.
*M. farlowii* (Arth.) Davis, rust. New England.
*Polyporus borealis* Fr., cuboidal rot. N. Y.
*Pucciniastrum hydrangeae* (Berk. and Curt.) Arth., rust. Va.
*P. myrtilli* (Schum.) Arth., rust. New England, N. Y., Pa., Va., W. Va., N. C., Ind.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot.

*T. heterophylla*, western hemlock.

*Botrytis* sp., seedling twig-blight. Idaho.
*Caeoma dubium* C. A. Ludwig, rust. Wash., Oreg.
*Dimerosporium tsugae* Dearn., sooty mold. Wash., Oreg.

**TSUGA**—Continued.

*T. heterophylla,* western hemlock—Continued.

*Echinodontium tinctorium* Ell. and Ev., brown stringy rot. Mont., Idaho, Oreg.
*Fomes annosus* Fr., white spongy rot. Wash.
*F. officinalis* Fr., reddish brown-rot.
*F. pinicola* Fr., brown crumbly rot. General with host.
*Polyporus dryadeus* (Pers.) Fr., white root-rot. Pacific Northwest.
*P. schweinitzii* Fr., red-brown butt-rot. Oreg.
*P. sulphureus* (Bull.) Fr., brown-checked wood-rot.
*Razoumofskya tsugensis* C. O. Rosendahl, hemlock mistletoe. Pacific Northwest; Alaska.
*Rhizina inflata* (Schaeff.) Sacc., seedling blight. Idaho.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Wash.
*Uredo holwayi* Arth., needle rust. Mont., Idaho.

*T. mertensiana,* mountain hemlock.

*Echinodontium tinctorium* Ell. and Ev., brown stringy rot. Wash.
*Fomes officinalis* Fr., brown heartwood rot. Idaho.
*F. pinicola* Fr., brown crumbly rot. General with host.
*Herpotrichia nigra* Hartig, matting. Oreg.
*Polyporus schweinitzii* Fr., red-brown butt-rot.
*Pythium debaryanum* Hesse, damping-off.
*Razoumofskya tsugensis* C. O. Rosendahl, mistletoe. Idaho, Wash.
*Trametes pini* (Brot.) Fr. (*Fomes pini* (Thore) Karst.), honeycomb rot. Oreg.

**TULIPA.**

*Tulipa* sp., tulip.

*Botrytis tulipae* (Lib.) E. F. Hopkins, botrytis blight. General.
*Rhizoctonia tuliparum* (Kleb.) Whet. and John M. Arthur, gray bulb-rot. N. Y.
*Sclerotinia* sp., white-rot. Ohio.

**ULMUS.**

*Ulmus* spp., elms.

*Cercospora sphaeriaeformis* Cke., leaf-spot. La.
*Coniothyrium ulmi* Tharp. Tex.
*Cylindrosporium tenuisporum* Heald and Wolf, leaf-spot. Tex.
*Fomes applanatus* (Pers.) Wallr. (*Ganoderma applanatum* (Pers.) Pat.), white-streaked rot. Northeastern States.
*F. igniarius* (L.) Fr., white heart-rot. Northeastern States.
*Gloeosporium inconspicuum* Cav., leaf-spot. Mass., Ohio, Mich., Minn., Okla.
*Gnomonia ulmea* (Sacc.) Thuem., black-spot. General east of Great Plains.
*Heterodera radicola* (Greef) Muell., root-knot. Calif.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Ill., Iowa.
*Mycosphaerella ulmi* Kleb., leaf-spot. East of Great Plains.
*Nectria cinnabarina* (Tode) Fr., canker. Ohio.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex., Ariz.
*Phoradendron flavescens* (Pursh) Nutt., mistletoe. Ind., Southwest.
*Phyllactinia corylea* (Pers.) Karst., powdery mildew. S. C., Ala., Miss., Tex., Ill.
*Phyllosticta confertissima* Ell. and Ev., leaf-spot. Pa., Kans.
*P. erratica* Ell. and Ev., leaf-spot. Ala.
*P. melaleuca* Ell. and Ev., leaf-spot. Ala., Miss., Okla., Mich., Iowa, Mo., Nebr.
*Pleurotus ulmarius* Bull., white sap-rot. Widespread east of Great Plains.
*Poronidulus conchifer* (Schw.) Murr., twig-blight. Ohio.
*Sphaeropsis ulmicola* Ell. and Ev., canker. Pa., Md., Ohio, Wis.
*Taphrina ulmi* (Fckl.) Johans., leaf blister. Mass.
*Uncinula macrospora* Pk., powdery mildew. General east of Great Plains.

**VACCINIUM.**

*Vaccinium* spp., blueberry.

*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. Miss.
*Calyptospora columnaris* (Alb. and Schw.) Kuehn, stem-rust. Frequent in the Northern States and Pacific coast.
*Exobasidium vaccinii* (Fckl.) Wor., red leaf-spot. General.
*Microsphaera alni vaccinii* (Schw.) Salm., powdery mildew. North Atlantic States; Ohio, Ill., Wash.
*Pucciniastrum myrtilli* (Schum.) Arth., leaf-rust. General, especially in Northern States.
*Ramularia effusa* Pk., leaf-spot. Wis.
*Rhytisma vaccinii* (Schw.) Fr., tar-spot. Widespread.
*Sclerotinia vaccinii-corymbosi* J. M. Reade, fruit-rot, twig-blight. North Atlantic States; Ind., Mich.
*Septoria albopunctata* Cke., leaf-spot. S. C.
*S. difformis* Cke. and Pk., leaf-spot. N. Y.
*Venturia compacta* Pk. Me., Mass., La., Wis.

*V. macrocarpon*, cranberry.

*Acanthorhyncus vaccinii* Shear, blotch-rot. Me., Mass., N. J., W. Va., N. C., Mich., Wis., Wash.
*Botrytis cinerea* Auct., gray-mold rot. Wash.
*Ceuthospora lunata* Shear, black-rot. Mass., N. J., Wash.
*Exobasidium oxycocci* Rostr., rose-bloom. Mass., Wash., Oreg.
*E. vaccinii* (Fckl.) Wor., red leaf-spot. Atlantic Coast States; W. Va., Wis., Minn., Wash.
*Fusicoccum putrefaciens* Shear, end-rot. Me., Mass., N. J., N. C., Mich., Wis., Wash., Oreg.
*Glomerella cingulata vaccinii* Shear, bitter-rot. Mass., N. J., N. C., Wis., Wash., Oreg.
*Guignardia vaccinii* Shear, early-rot. Mass., Conn., N. Y., N. J., Va., N. C., Wis., Wash.
*Leptothyrium oxycocci* Shear. Mass.
*Microsphaera alni vaccinii* (Schw.) Salm., powdery mildew. N. J., Ohio.
*Phomopsis* sp., fruit-rot. Wash.
*Phyllosticta putrefaciens* Shear, rot. N. J.
*Pucciniastrum myrtilli* (Schum.) Arth., rust. Wash.
*Sclerotinia oxycocci* Wor., hard-rot and tip-blight. Wis., Wash.
*Synchytrium vaccinii* F. Thomas, red-gall. N. J.
*Venturia compacta* Pk. Me., Mass., N. Y., N. J., Wis., Wash.
False-blossom, undet. Mass., N. J., Wis., Wash., Oreg.

**VIBURNUM.**

*Viburnum* spp., viburnum.

*Botrytis* sp., blight. Wash.
*Cercospora varia* Pk., leaf-spot. Mass., N. Y., Ind., Ill., Iowa, Colo.
*Coleosporium viburni* Arth., rust. Md., Wis., Iowa.
*Corticium stevensii* Burt (*Hypochnus ochroleucus* F. Noack), leaf-blight. N. C.
*Helminthosporium beaumonti* Sacc., leaf-spot. Ala.
*Hendersonia foliorum* Fckl., leaf-spot. Tex.
*Hymenochaete agglutinans* Ell. Pa.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Widespread.
*Phyllosticta lantanoidis* Pk., leaf-spot. N. Y.
*P. punctata* Ell. and Dearn., leaf-spot. Wis.
*P. tineola* Sacc., leaf-spot. Wis.
*Plasmopara viburni* Pk., downy mildew. N. Y., W. Va., Ga., Ala., Minn.
*Puccinia linkii* J. F. Klotzsch, rust. Mich., Idaho, Mont., Wash.

**VICIA.**

*V. faba*, broadbean.

*Ascochyta pisi* Lib. (*Mycosphaerella pinodes* (Berk. and Blox.) R. E. Stone), leaf-spot. Calif.
*Corticium vagum* Berk. and Curt., stem-rot. Mich., Wash.
*Fusarium culmorum* W. G. Smith, root-rot. Utah.
*F. trichothecioides* Woll., root-rot. Utah.
*Heterodera radicicola* (Greef) Muell., root-knot. Calif.
*Uromyces fabae* (Pers.) D By., rust. Ala., La.

**VICIA**—Continued.

*V. sativa*, common vetch.

*Ascochyta pisi* Lib. (*Mycosphaerella pinodes* (Berk. and Blox.) R. E. Stone), leaf-spot. Miss.
*Cercospora viciae* Ell. and Holw., leaf-spot. Iowa, Kans.
*Peronospora viciae* D By., downy mildew. Va., Miss.

*V. villosa*, hairy vetch, winter vetch.

*Ascochyta pisi* Lib. (*Mycosphaerella pinodes* (Berk. and Blox.) R. E. Stone), leaf-spot. Occurs scatteringly in widely separated States.
*Heterodera radicicola* (Greef) Muell., root-knot. Calif.
*Pseudopeziza medicaginis* (Lib.) Sacc., leaf-spot. Miss.
*Sclerotinia* sp. Calif.

**VIGNA.**

*V. catjang*, catjang-pea.

*Cercospora vignae* Ell. and Ev., leaf-spot. Del., Fla., Tenn., La., Ark.
*Fusarium vasinfectum tracheiphilum* EFS., wilt. Widespread in Southern States.
*Heterodera radicicola* (Greef) Muell., root-knot.

*V. sinensis*, cowpea.

*Amerosporium oeconomicum* Ell. and Tr., leaf-spot. Southern States; Del., Conn.
*Bacillus lathyri* Manns and Taub., streak. Del.
*Bacterium phaseoli* EFS. (*Phytomonas phaseoli* (EFS.) Com. S. A. B.), bacterial blight. Okla.
*B. vignae* M. W. Gardner and J. B. Kendrick (*Phytomonas vignae* (Gardner, and Kendrick) Com. S. A. B.), bacterial spot. Ind., Kans.
*Cercospora cruenta* Sacc., leaf-spot. General east of Great Plains, especially in South.
*C. dolichii* Ell. and Ev., leaf-spot. Conn., N. J., Ala., Miss.
*C. vignae* [3] M. Raciborski, leaf-spot. Tex.
*Cladosporium vignae* M. W. Gardner, leaf-spot. Ind.
*Colletotrichum lindemuthianum* (Sacc. and Magn.) Briosi and Cav. (*Glomerella lindemuthiana* Shear), anthracnose. Del., Fla.
*Corticium vagum* Berk. and Curt., stem-rot. Southern States.
*Erysiphe polygoni* DC., powdery mildew. Southern States.
*Fusarium martii phaseoli* Burk., root-rot.
*F. vasinfectum tracheiphilum* EFS., wilt. Southern States; Ind., Kans., Calif.
*Heterodera radicicola* (Greef) Muell., root-knot. Southern States.
*Microsphaera alni* (Wallr.) Wint., powdery mildew. Ga.
*M. euphorbiae* Berk. and Curt., powdery mildew. S. C., Fla.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Okla., Tex.
*Phyllosticta phaseolina* Sacc., leaf-spot. Del., Va., N. C., S. C., Ind., Ill., Mich.
*Sclerotium rolfsii* Sacc., stem-rot. N. C.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. Md., D. C.
*Uromyces vignae* A. Barclay, rust. Md., Va., Fla., Ala., Tex., Ind., Iowa, Mo., Calif.
Mosaic, undet. Ark., Okla., Ind.

**VIOLA.**

*V. odorata*, sweet violet.

*Alternaria violae* Gall. and P. H. Dorsett, leaf-spot. Conn., Tex.
*Cercospora violae* Sacc., leaf-spot. Conn., Pa., Ala., Tex.
*Colletotrichum violae-tricoloris* R. E. Smith, leaf-spot. Conn.
*Corticium vagum* Berk. and Curt., stem-rot. N. Y.
*Gloeosporium violae* Berk. and Br., leaf-spot. Miss.
*Heterodera radicicola* (Greef) Muell., root-knot.
*Phyllosticta violae* Desm., leaf-spot. Conn., Mass.
*Sclerotium rolfsii* Sacc., stem-rot. Md.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. Mass., Conn., N. Y., Md., D. C.

[3] *Cercospora vignae* Rac. was described from Java in 1898; *Cercospora vignae* Ell. and Ev. from Louisiana in 1886. Heald and Wolf reported *C. vignae* Rac. from Texas in 1912.

**VIOLA**—Continued.

*V. tricolor* and *V. cornuta*, pansy.

*Alternaria violae* Gall. and P. H. Dorsett, leaf-spot. N. Y., Pa.
*Cercospora violae* Sacc., leaf-spot. N. Y.
*Colletotrichum* sp., anthracnose. Fla.
*C. violae-tricoloris* R. E. Smith, leaf-spot. Mass., N. Y., N. J.
*Corticium vagum* Berk. and Curt., root-rot. Del., Minn.
*Fusarium* sp., wilt. Ohio, Mich.
*F. violae* Wolf, stem-rot, root-rot. Nebr.
*Heterodera radicicola* (Greef) Muell., root-knot. N. Y.
*Peronospora violae* D By., downy mildew. Miss., Ill., Nebr.
*Puccinia ellisiana* Thuem., rust. Kans., Nebr.
*P. violae* (Schum.) DC., rust. S. C., N. Dak.
*Pythium debaryanum* Hesse, damping-off. Conn.
*Ramularia* sp., leaf-spot. Wash.
*Sphaerotheca humuli fuliginea* (Schl.) Salm., powdery mildew. Wash.
*Thielavia basicola* (Berk. and Br.) Zopf, black root-rot. Conn.

**VITIS.**

*Vitis* sp., grape.

*Armillaria mellea* (Vahl) Quel., root-rot. Wash.
*Bacterium tumefaciens* EFS. and Town. (*Phytomonas tumefaciens* (EFS. and Town.) Com. S. A. B.), crown-gall. General.
*Botrytis cinerea* Auct., gray-mold rot. General on fruit.
*Clitocybe monadelpha* (Morgan) Sacc., root-rot. Mo., Ark., Okla., Tex.
*Cryptosporella viticola* (Reddick) Shear, dead-arm. General east of Great Plains.
*Glomerella cingulata* (Ston.) Spauld. and Schrenk, ripe-rot. Widespread east of Miss. River.
*Guignardia bidwellii* (Ell.) Viala and Ravaz, black-rot. General east of Great Plains.
*Heterodera radicicola* (Greef) Muell., root-knot. Calif.
*Isariopsis clavispora* (Berk. and Curt.) Sacc. (*Cercospora viticola* (Ces.) Sacc.), leaf-spot. Southern States; Mich.
*Melanconium fuligineum* (Scrib. and Viala) Cav., bitter-rot. Widespread east of Great Plains, especially South.
*Ozonium omnivorum* Shear (*Phymatotrichum omnivorum* (Shear) Dug.), root-rot. Tex.
*Pestalozzia uvicola* Speg., leaf-blight. Fla., Miss., Tenn., Ohio, Ind., Nebr.
*Phakopsora vitis* (Thuem.) Syd., rust. S. C., Fla.
*Plasmopara viticola* (Berk. and Curt.) Berl. and DeToni, downy mildew. General east of Great Plains; Calif.
*Rhytisma vitis* Schw., tar-spot. N. Y., Pa.
*Roesleria hypogaea* Thuem. and Pass., root-rot. N. Y., Pa., Ohio, Ill., Mo., N. Mex.
*Septoria ampelina* Berk. and Curt., leaf-spot. N. Y., Va., Tex., Kans.
*Sphaceloma ampelinum* D By. (*Gloeosporium ampelophagum* (Pass.) Sacc.), anthracnose. General but erratic east of Great Plains.
*Uncinula necator* (Schw.) Burr., powdery mildew. General.
California vine disease, undet. Calif.
Chlorosis. Eastern States.
Little-leaf, undet. Calif.
Spanish measles, undet. Calif.

**WISTERIA.**

*Wisteria* sp., wisteria.

*Phyllosticta wistariae* Sacc., leaf-spot. N. J., Tex.
*Septoria wistariae* Tharp, leaf-spot. Tex.

**YUCCA.**

*Y. filamentosa*, common yucca.

*Cercospora concentrica* Cke. and Ell., leaf-spot. N. J.
*Coniothyrium concentricum* (Desm.) Sacc., leaf-spot. Ala., N. Y., Idaho.
*Gloeosporium yuccaegenum* Ell. and Ev., leaf-spot. Mo.
*Leptosphaeria filamentosa* Ell. and Ev., leaf-spot. N. J.

**ZEA.**

*Z. mays*, maize, Indian corn.

*Aplanobacter stewartii* (EFS.) McC. (*Phytomonas stewarti* (EFS.) Com. S. A. B.), bacterial wilt. General east of Great Plains; Southwest; especially on certain varieties of sweet corn.
*Aspergillus* sp., ear-mold. La., Tex., Calif.
*Bacterium dissolvens* H. R. Rosen, bacterial root-rot. Miss., La., Ark., Ill.
*Basisporium gallarum* M. Molliard (*Coniosporium gecevi* Bub.), cob-rot. Conn., Ohio, Iowa, Kans.
*Cephalosporium acremonium* Cda., black bundle. East of Great Plains, Calif.
*Cercospora sorghi* Ell. and Ev., leaf-spot. S. C., Ala., La.
*Colletotrichum graminicolum* (Ces.) Wils., anthracnose. Conn., N. J., S. C., W. Va.
*Diplodia zeae* Lév., dry-rot. General where corn is grown.
*Fusarium culmorum leteius* Sherb., seedling blight. Oreg.
*F. moniliforme* Sheld., ear-rot and seed-rot. General.
*Gibberella saubinetii* (Mont.) Sacc., root-rot. General east of Great Plains.
*Helminthosporium* sp., stalk canker. Ga.
*H. turcicum* Pass., leaf-blight. General east of Great Plains.
*Heterodera radicicola* (Greef) Muell., root-knot. S. C., Ala.
*Ophiobolus heterostrophus* Drechs., leaf-spot. Fla.
*Phyllosticta* sp., leaf-spot. Fla.
*Physoderma zeae-maydis* Shaw, brown-spot. N. J., Md. to Nebr. and south. Most important in South.
*Phytophthora cactorum* (Leb. and Cohn) Schroet., root-rot. Conn.
*Puccinia sorghi* Schw., rust. General, especially east of Rocky Mts.
*Pythium* sp., root-rot. Fla.
*Rhizoctonia* sp., root-rot. Ohio, Minn., Wash.
*Rhizopus nigricans* Ehr., seed-blight.
*Sclerospora graminicola* (Sacc.) Schroet., downy mildew. Iowa.
*Sclerotium rolfsii* Sacc., stem-rot. Fla., Ala., Tex.
*Sorosporium reilianum* (Kuehn) McAlp., head-smut. N. Y., Ohio, Kans., Idaho, Wash., Calif.
*Ustilago zeae* (Beckm.) Ung., smut. General.
Mosaic, undet. Ga., Ark., La.
Sheath-spot, Fusaria and other fungi. General.

**ZINNIA.**

*Z. elegans*, zinnia.

*Cercospora atricincta* Heald and Wolf, leaf-spot. Fla., Tex.
*C. zinniae* Ell. and Mart., leaf-spot. Fla., Ala.
*Choanephora* sp., blossom blight. Fla.
*Erysiphe cichoracearum* DC., powdery mildew. Conn., W. Va., Ill., Tex.
*Fusarium* sp., wilt. Wash.
*Paratylenchus nanus* Cobb, nematode. Md.

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April 1, 1926

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